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CONTENTS.

	PAGE.
Portrait of Francis Wayland,.....	1
I. WHAT IS EDUCATION? Defined—Value of Axioms,.....	7
Greek and Roman Authorities,.....	8
Pythagoras—Plato—Aristotle—Aristophanes—Seneca—Horace,.....	8
German Authorities,.....	9
Schmidt—Braun,.....	9
Kant—Richter—Spurzheim,.....	11
French Authorities,.....	12
Rousseau—Marcel—Fellenberg,.....	12
Scotch Authorities,.....	13
D. Stewart—T. Brown—J. Simpson, Sir W. Hamilton—T. Carlyle,.....	13
American Authorities,.....	14
A. Potter—D. Webster—D. Page,.....	14
W. E. Channing—F. Wayland,.....	15
W. C. Woodbridge—H. Mann,.....	16
II. NATIONAL INSTITUTIONS FOR MILITARY EDUCATION,.....	17
UNITED STATES MILITARY ACADEMY AT WEST POINT,.....	17
1. Historical Development,.....	17
2. Studies and Results,.....	35
Conditions and Forms of Admission,.....	47
III. CAPT. ALDEN PARTRIDGE,.....	49
Portrait,.....	49
Memoir,.....	49
Labors in behalf of Military Schools and Education,.....	51
IV. STATE AND INDIVIDUAL INSTITUTIONS FOR MILITARY EDUCATION,.....	65
LITERARY, SCIENTIFIC, AND MILITARY ACADEMY AT NORWICH, VT.,.....	65
Origin—Prospectus and Results,.....	67
NORWICH UNIVERSITY,.....	67
V. BENEFACTORS OF AMERICAN EDUCATION,.....	73
CAROLINE PLUMMER,.....	73
Memoir,.....	73
Educational Benefactions,.....	75
Plummer Farm School in Salem,.....	76
Plummer Professorship of Christian Morals in Harvard College,.....	77
Plummer Hall in Salem,.....	78
VI. SUGGESTIONS ON EARLY MENTAL TRAINING,.....	79
Bushnell,.....	79
Quintilian—Plutarch—Seneca—Luther—Pythagoras,.....	81
Luther—Comenius—Moscherouch—Montaigne—Helvetius—Forster—Weikard,.....	87
Pestalozzi—Tetzner—Rousseau,.....	89
Zschokke—Stoy—Goethe—Schröder—Rotteck—Michaelis,.....	91
Laudor—Issac Taylor—Daniel Webster,.....	92

	Page.
VII. PLAYS, PASTIMES, AND HOLIDAYS OF CHILDREN	93
The uses of the play-state of Childhood.....	93
Family, Civil and Religious Festivals.....	94
Home and Evening Pastimes.....	95
Restrictions necessary for mental and spiritual growth.....	98
The Rule as to Sunday Observance.....	100
VIII. STUDIES	103
Essay by Lord Bacon.....	103
Annotations on, by Archbishop Whately.....	104
A little learning not to be contemned.....	104
What is a "Smattering of Knowledge,".....	107
How to study, especially the Scriptures.....	108
Deference due to the opinions of well-informed men.....	111
Analysis, Contents, Index, Notes of books read.....	112
Action of different studies on the mind.....	114
The pleasure-ground of knowledge.....	121
IX. ELEMENTARY SCHOOLS AS THEY WERE—described	123
By Noah Webster—Letter to the Editor.....	123
Extract from "Essay on Education"—1788.....	124
" Heman Humphrey—Letter to the Editor.....	125
" Joseph T. Buckingham—Letter to the Editor.....	129
" Eliphalet Nott—Letter to the Editor.....	132
" Samuel G. Goodrich—Recollections of a Lifetime.....	134
" Horace Bushnell—The Age of Homespun.....	142
NOTE—Results of Country Schools and Country Training.....	143
X. NATIONAL EDUCATION	145
ORGANIZATION OF ELEMENTARY SCHOOLS IN IRELAND	145
School Organizers—their duties, and Teachers' Institutes.....	145
School Organization.....	148
Tripartite System.....	149
Bipartite System.....	150
Modified Monitorial system.....	151
Specimens of Time Tables.....	152
Syllabus of Lectures on Methods of Instruction.....	153
SUBJECTS AND METHODS OF INSTRUCTION FOR PRIMARY SCHOOLS	155
Necessity and Nature of the Infant and Primary School.....	155
Moral Education.....	158
Intellectual Education.....	162
Physical Education.....	169
Qualifications of the Teacher.....	169
School Rules—Sanitary Regulations—Time Tables.....	171
Developing Lessons—or the Training of the Perceptive Faculties.....	176
Form—Lines—Solids.....	184
Color—Size—Number—Weight—Sound.....	194
Specimen Lessons on Real Objects.....	195
Moral Lessons.....	198
ILLUSTRATED SCHOOL BOOKS	205
THE CHILD'S AND YOUTH'S GUIDE . By T. H., 1762.....	205
The Symbolic and Illustrated Alphabet.....	206
Rhymes—The Child's Behavior from Morning to Night.....	208
XIII. AMERICAN TEXT-BOOKS	209
Plan of Catalogue, and Discussion.....	209
PART I. Authors and Books, Alphabetical List—A. B.,.....	215
XIV. BOOKS NOTICED	223
XV. EDUCATIONAL MOVEMENTS	224
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THE AMERICAN JOURNAL OF EDUCATION FOR 1863, will be issued on the 15th of March, June, September, and December—making one volume of 824 pages octavo, with at least four portraits from engravings on steel, and numerous wood cuts. TERMS, \$2.50, if paid prior to 15th March, and \$3.00, if paid after March 15th. Single Number, \$1.00.

I. AXIOMS.

APHORISMS representing a knowledge broken, do invite men to inquire farther; whereas methods carrying the show of a total, do secure men, as if they were at farthest.

BACON.

Exclusively of the abstract science, the largest and worthiest portion of our knowledge consists of Aphorisms: and the greatest and best of men is but an Aphorism.

There is one way of giving freshness and importance to the most common-place maxims—that of reflecting on them in direct reference to our own state and conduct, to our own past and future being.

S. T. COLERIDGE.

Mature and sedate wisdom has been fond of summing up the results of its experience in weighty sentences. Solomon did so: the wise men of India and Greece did so: Bacon did so: Goethe in his old age took delight in doing so They who can not weave an uniform web, may at least produce a piece of patchwork; which may be useful, and not without a charm of its own. The very sharpness and abruptness with which truths must be asserted, when they are to stand singly, is not ill-fitted to startle and rouse sluggish and drowsy minds.

Guesses at Truth.

A collection of good sentences resembles a string of pearls.

Chinese saying.

Nor do Apophthegms only serve for ornament and delight, but also for action and civil use: as being the edge-tools of speech, which cut and penetrate the knots of business and affairs.—BACON.

How often one finds in life, that an idea, which one may have met in youth, made visible in words, but also veiled in them, and which in this shape has haunted one with a vague sense of something divine, but dim and inscrutable, becomes, at the call of conscience, or when real events and beings give it its fit body, the open aspect of a messenger from Heaven, and the familiar friend of all one's after days.

STERLING.

Abstracts, abridgments, summaries, &c., have the same use with burning glasses, to collect the diffused rays of wit and learning in authors, and make them point with warmth and quickness upon the reader's imagination.

SWIFT.

Harmony, the ultimate object of all things, should exist as in the universe, so in man also, who is a little world in himself.

It is to this end especially that education should be directed; which requires:

1. That youth should not hear of any thing which may awaken unchaste desires, until they are acquainted with the dignity and loftiness of human nature.

2. That youth should endeavor to attain a ripe development, by means of effort.

3. That parents are the proper educators; and that it is therefore the greatest injustice to separate parents and children.

4. That education should extend over the whole period of youth.

PYTHAGORAS.

Man becomes what he is, principally by education; which pertains to the whole of life.

Education must begin even before birth, with the parents themselves; must constitute a rule of action during the entire life, and in a certain sense must exist during the whole of it.

A good education consists in giving to the body and the soul all the perfection of which they are susceptible.

PLATO.

Man becomes what he is, by nature, habit, instruction.

The last two, together, constitute education, and must always accompany each other; the former, however, preceding.

It can improve nature, but not completely change it.

The intellect is perfected, not by knowledge but by activity.

The arts and sciences are powers, but every power exists only for the sake of action; the end of philosophy is not knowledge, but the energy conversant about knowledge.

ARISTOTLE.

The regimen that will insure

A healthful body and a vigorous mind,

A countenance serene, expanded chest,

Heroic stature and a temperate tongue.

— So were trained the heroes, who imbued

The field of Marathon with hostile blood.

This discipline it was that braced their nerves,

And fitted them for conquest.

ARISTOPHANES. *The Clouds.*

There is no living being whose nature is so obstinate and cross-grained as that of man; who has a natural tendency towards what is forbidden and dangerous, and does not willingly allow himself to be influenced.

But these sinful natural tendencies can be improved by wise laws, by a mild and just administration of them, and by an education which unites firmness and love.

SENECA.

Education awakes the innate power of the mind, and high cultivation confirms it.

HORACE.

The specific signification of Education has often been defined by means of the distinction between *educere* and *educare*. But this is not a sufficient basis for a precise definition. E. M. Arndt, in his "*Fragments on Human Culture*,"* considers *educare* to signify the artistic process or art of education, and thinks that *educere* is more correctly translated by "to bring up," or "raise up;" *ἐπιφέρειν*. Schmidt in one place considers *educere* to be the business of the mother, because she brings forth the child.† In another place, he says it means "to bring out of the family, into a larger sphere of life—into the world;"‡ and in a third, that it means "to awaken, set in activity and develop the inner higher faculties."§ *Educare* is in the latter place taken to mean, on the contrary, "to bring the boy out of his animalized state of existence; to change the animal man into the spiritual."

Let us now consider whether German etymology may not furnish a more definite answer. *Ziehen* means to remove any thing from one place to another, in such a way that the thing moved follows the power, and does it, also, in a steady manner, in contradistinction to throwing, striking, or carrying; and the thing moved is in a certain sense forced to go itself, even though it struggles not to do so. This radical word has gained a metaphorical meaning in the department discussed by this work, by its relation in meaning to the sense in which it is used to signify the gardener's production of flowers from a bulb. Thus *ziehen* describes the management of his assistants by a teacher; of his orchestra by a leader, (though the compound *heranziehen* is more precisely proper); and in these cases the meaning is still very nearly the same with that of the original word, for there is a drawing after himself by the leader, without however any reference to the means by which the influence is exerted. But when *ziehen* is used to denote the sort of training that is acquired by a wild young man who is sent to be a soldier, the most prominent idea is that of the means used; the strenuous discipline; and the design is not that he shall follow after his discipliner in any sense, but that by means of his receiving the action here denoted by *ziehen*, that is by means of the passivity into which the constraint of his discipline brings him, he shall learn a right passivity, which is the negation of his previous wrong activity; namely, by means of an obedience to persons, authorities, orders; which obedience is the negation of his own undisciplined self-will. *Aufziehen* has a definite pedagogical meaning. It is the continuation of that careful protection from dangers to life, which is given to young infants; and therefore the physical care of the child, up to the period when it can take care of itself; a duty which can after the death of the mother be performed, for instance, by a maid. Here

* "*Fragmente über Menschenbildung*."

† "*Outline*," &c., p. 40. "The child is brought forth into the light of day; *educitur*; as the proverb says, *educit obatrix, educat nutrix, instituit pædagogus, docet magister*."

‡ *Ib.*, p. 221.

§ *Ib.*, p. 223.

‡ *Ziehen* corresponds very nearly to the Latin root word of "*educate*," viz., *duco*, to lead, draw, &c.

the animal side of the human being is most prominent; so that the word may be used even of a calf; and when applied to persons, is usually spoken of orphaned or neglected children, who early come into the charge of strangers; and whose education is considered chiefly from the point of view of a beneficent life-sustained love. *Erziehen*, (educate,) on the contrary, according to the signification of the prefix *er* in many words, denotes the action of *ziehen* perfected; carried out to its ultimate object; as including all sides of the subjects of its action; complete within its proper scope. *Erziehen* (to educate) is therefore *ziehen* (to draw forth), and *aufziehen* (to bring up) in their metaphorical sense, but with the additional definite shade of meaning, that its action is carried out to its completed purpose, and applies to all sides of the object to be acted on. But this does not however fully express the actual extent of the idea. The best and most condensed definition that we can give is—Education is that intentional and systematic course of operations by adult persons upon the young, which is designed to raise the latter to whatever degree of individual excellence they are capable of by nature; and in whose attainment that divine purpose will be accomplished, for which every individual man is destined by God for himself and for society; and for which society also is destined in like manner.

SCHMIDT'S "*Pädagogische Encyclopädie*."

Education is assistance directed to the fullest development of all the faculties of the man, and to an attainment the nearest possible of the end of his existence instituted by God. Thus education introduces nothing foreign into man, whereas instruction is concerned in the appropriation of a foreign material, of human knowledge generally, not the germs of which, but the capacity to make his own, lies in man.

Encyclopädie der Pädagogik.

Education is the act [i. e. the continuous and entire treatment and conduct and exertion of influence] which places a child in the condition to fulfill as nearly as possible his destiny as a mortal and immortal being. It has for its aim the development of his faculties as a man, physical, intellectual, moral, social, and religious, in such proportion that through their harmonious action he will escape the punishments which await the bad, and become worthy of the rewards reserved for virtue.

THOMAS BRAUN. *Cours de Pédagogie.*

Maintaining the health of the body; training its powers; developing and sharpening the natural understanding; enlightening ideas relative to man and the world; instructing and elevating the imagination, the sense of the beautiful, the noble, the great, the affecting, the refined, the pleasing; harmony of the bodily desires, and subjection of them to the moral laws of the reason; moderation in the enjoyment of the good things of life, and equanimity in the want of them; reference of all earthly being and action to the other side of the grave.

THE AUTHOR OF *The Impulses of Reason*.

There is within every man a divine ideal, the type after which he was created, the germs of a perfect person, and it is the office of education to favor and direct these germs.

KANT.

Man is the only creature that requires to be educated: one generation educates another. The young, however, ought to be educated not in accordance with the present standard of the human race, but with a view to a future and much meliorated condition of humanity. In short, the object of education ought to be, to develop in the individual all the perfection of which he is capable.

KANT.

The art of education ought to aim at a standard of elevation superior to what may happen to be the spirit of the time—for the child is to be educated not for the present merely.

J. P. RICHTER.

I use this term (education) as embracing every means which can be made to act upon the vegetative, affective, and intellectual constitution of man, for the purpose of improving this his threefold nature.

Being asked what I mean by human nature? I reply, that it is not body alone, nor mind alone, nor animal propensities, affections, or passions; nor moral feelings, nor intellect; neither is it organization in general, nor any system of the body, nor any particularity whatever; but human nature, in the proper sense of the words, comprehends all the observable phenomena of life, from the moment of conception to that of death, both in the healthy and diseased state; or in short, all the manifestations both of the body and mind.

G. SPURZHEIM. *View of Education.*

Education may, in a certain sense, be said to be threefold—the education of nature, of man, and of circumstances. The internal development of our faculties and organs is the education of nature: the use which we are taught to make of this development is the education of man: and the acquisitions of our own experience respecting the objects which operate upon us is the education of circumstances.

ROUSSEAU.

Education proposes to confer on man the highest improvement of which his body, his mind, and his soul, are capable, with a view to secure his well being, to fit him for society, and to prepare him for a better world. Hence, general education is divided into three branches, physical, intellectual, and moral, the latter including religious training. The first aims at health, strength and beauty; the second at mental power and the acquisition of knowledge; and the third at piety, justice, goodness, and wisdom.

C. MARCEL. *Language.*

I call that education which embraces the culture of the whole man, with all his faculties—subjecting his senses, his understanding, and his passions to reason, to conscience, and to the evangelical laws of the Christian revelation.

DE FELLENBURG.

The first thing to be done in conducting the understanding is precisely the same as conducting the body, to give it regular and copious supplies of food, to prevent that atrophy and marasmus of mind, which comes on from giving it no new ideas. It is a mistake equally fatal to the memory, the imagination, the powers of reasoning, and to every faculty of the mind, to think too early that we can live upon our stock of understanding—that it is time to leave off business, and make use of the acquisitions we have already made, without troubling ourselves any further to add to them. It is no more possible for an idle man to keep together a certain stock of knowledge than it is possible to keep together a stock of ice exposed to the meridian sun. Every day destroys a fact, a relation, or an inference; and the only method of preserving the bulk and value of the pile is by constantly adding to it.

The fire of our minds must act and feed—upon the pure spirit of knowledge, or upon the foul dregs of polluting passions. Therefore, when I say, love knowledge with a great love, with a vehement love, with a love coeval with life, what do I say, but love innocence—love virtue—love purity of conduct—love that which will comfort you, adorn you, never quit you;—which will open to you the kingdom of thought, and all the boundless regions of conception, as an asylum against the cruelty, the injustice, and the pain that may be your lot in the outer world—that which will make your motives habitually great and honorable, and light up in an instant a thousand noble disclaims at the very thought of meanness and of fraud.

SIDNEY SMITH.

There have been many men of an excellent mind and of great virtue without learning, merely by their extraordinary nature approaching to divine; but yet, when to this extraordinary nature are added the advantages of regular discipline and education, then at last something remarkably eminent and singularly great, is usually produced.

CICERO.

Education in that sense in which it deserves the grave consideration and the earnest efforts of the community—is something more than the mere ability to read, write, and cipher; and something more too than what is commonly meant by moral and intellectual culture. It is the fitting the individual man for fulfilling his destiny, of attaining to the end, accomplishing the purposes for which God hath made him. It divides itself into two branches: 1. That which answers the question, what is my destiny as an individual, and fits me for attaining it? and 2dly, that which answers the question, what is the destiny of society, and fits me to coöperate in its attainment? Individual education is general and special—education as a man, and education with reference to occupation or social position.

BROWNSON.

At the first it is no great matter *how much* you learn, but *how well* you learn it.

ERASMUS.

It [the understanding] grows like a tree under the unseen operations of time.

HORACE.

The most essential objects of education are the two following—first, to cultivate all the various principles of our nature, both speculative and active, in such a manner as to bring them to the greatest perfection of which they are susceptible; and, secondly, by watching over the impressions and associations which the mind receives in early life, to secure it against the influence of prevailing errors, and, as far as possible; engage its prepossessions on the side of truth.

To watch over the associations which they form in infancy; to give them early habits of mental activity; to rouse their curiosity, and direct it to proper objects; to exercise their ingenuity and invention; to cultivate in their minds a turn for speculation, and, at the same time, preserve their attention alive to the objects around them; to awaken their sensibilities to the beauties of nature, and to inspire them with a relish for intellectual enjoyment—these form but a part of the business of education.

DUGALD STEWART.

Education is that noble art which has the charge of training the ignorance and imbecility of infancy into all the virtue, and power, and wisdom of mature manhood—of forming, of a creature, the frailest and feeblest which heaven has made, the intelligent and fearless sovereign of the whole animated creation, the interpreter and adorer, and almost the representative of the Divinity.

THOMAS BROWN.

Education is a process calculated to qualify man to think, feel, and act in a manner most productive of happiness. It possesses three essentials—first, by early exercise to improve the powers and faculties, bodily and mental; secondly, to impart a knowledge of the nature and purposes of these powers and faculties; and, thirdly, to convey as extensive a knowledge as possible of the nature of external beings and things, and the relation of these to the human constitution.

J. SIMPSON.

The paramount end of liberal study is the development of the student's mind, and knowledge is principally useful as a means of determining the faculties to that exercise through which this development is accomplished. Self-activity is the indispensable condition of improvement; and education is only education—that is, accomplishes its purposes, only by affording objects and supplying incitements to this spontaneous exertion. Strictly speaking, every man must educate himself.

SIR WILLIAM HAMILTON. *Metaphysics.*

The great result of schooling is a mind with just vision to discern, with free force to do; the grand schoolmaster is Practice.

The first principle of human culture, the foundation-stone of all but false imaginary culture, is that men must before every other thing, be trained to do somewhat. Thus, and others only, the living Force of a new man can be awakened, enkindled, and purified into victorious clearness!

THOMAS CARLYLE. *Essays.*

"A virtuous and noble education" is whatever tends to train up to a healthy and graceful activity our mental and bodily powers, our affections, manners, and habits. It is the business, of course, of all our lives, or, more properly, of the whole duration of our being. But since impressions made early are the deepest and most lasting, that is, above all, education which tends in childhood and youth to form a manly, upright, and generous character, and thus to lay the foundation for a course of liberal and virtuous self-culture.

ALONZO POTTER. *The School and Schoolmaster.*

Costly apparatus and splendid cabinets have no magical power to make scholars. As a man is, in all circumstances under God, the master of his own fortune, so is he the maker of his own mind. The Creator has so constituted the human intellect, that it can only grow by its own action; and it will certainly and necessarily grow. Every man must therefore educate himself. His books and his teachers are but his helps; the work is his. A man is not educated until he has the ability to summon, on an emergency, his mental powers in vigorous exercise to affect his proposed object. It is not the man who has seen the most, or read the most who can do this; such an one is in danger of being borne down, like a beast of burden, by an overloaded mass of other men's thoughts. Nor is it the man who can boast merely of native vigor and capacity. The greatest of all the warriors who went to the siege of Troy, had not the preëminence because nature had given him strength, and he carried the largest bow; but because self-discipline had taught him how to bend it.

DANIEL WEBSTER.

Education is development, not instruction merely—not knowledge, facts, rules—communicated by the teacher, but it is discipline, it is a waking up of the mind, a growth of the mind—growth by a healthy assimilation of wholesome aliment. It is an inspiring of the mind with a thirst for knowledge, growth, enlargement—and then a disciplining of its powers so far that it can go on to educate itself. It is the arousing of the child's mind to think, without thinking for it; it is the awakening of its powers to observe, to remember, to reflect, to combine. It is not a cultivation of the memory to the neglect of every thing else; but is a calling forth of all the faculties into harmonious action.

DAVID PAGE. *Theory and Practice.*

Oh, woe to those who trample on the mind,
That deathless thing! They know not what they do,
Nor what they deal with. Man, perchance, may bind
The flower his step hath bruised; or light anew
The torch he quenches; or to music wind
Again the lyre-string from his touch that flew;—
But for the soul, oh, tremble, and beware
To lay rude hands upon God's mysteries there!

Anonymous.

The true end of education, is to unfold and direct aright our whole nature. Its office is to call forth power of every kind—power of thought, affection, will, and outward action; power to observe, to reason, to judge, to contrive; power to adopt good ends firmly, and to pursue them efficiently; power to govern ourselves, and to influence others; power to gain and to spread happiness. Reading is but an instrument; education is to teach its best use. The intellect was created, not to receive passively a few words, dates, facts, but to be active for the acquisition of truth. Accordingly, education should labor to inspire a profound love of truth, and to teach the processes of investigation. A sound logic, by which we mean the science or art which instructs us in the laws of reasoning and evidence, in the true methods of inquiry, and in the sources of false judgments, is an essential part of a good education. And yet, how little is done to teach the right use of the intellect, in the common modes of training either rich or poor. As a general rule, the young are to be made, as far as possible, their own teachers—the discoverers of truth—the interpreters of nature—the framers of science. They are to be helped to help themselves. They should be taught to observe and study the world in which they live, to trace the connections of events, to rise from particular facts to general principles, and then to apply these in explaining new phenomena. Such is a rapid outline of the intellectual education, which, as far as possible, should be given to all human beings; and with this, moral education should go hand in hand. In proportion as the child gains knowledge, he should be taught how to use it well—how to turn it to the good of mankind. He should study the world as God's world, and as the sphere in which he is to form interesting connections with his fellow-creatures. A spirit of humanity should be breathed into him from all his studies. In teaching geography, the physical and moral condition, the wants, advantages, and striking peculiarities of different nations, and the relations of climate, seas, rivers, mountains, to their characters and pursuits, should be pointed out, so as to awaken an interest in man wherever he dwells. History should be constantly used to exercise the moral judgment of the young, to call forth sympathy with the fortunes of the human race, and to expose to indignation and abhorrence that selfish ambition, that passion for dominion, which has so long deluged the earth with blood and woe. And not only should the excitement of just moral feeling be proposed in every study, the science of morals should form an important part of every child's instruction. One branch of ethics should be particularly insisted on by the government. Every school, established by law, should be specially bound to teach the duties of the citizen to the state, to unfold the principles of free institutions, and to train the young to an enlightened patriotism.

W. E. CHANNING. *Christian Examiner*, Nov., 1833.

The object of the science of education is to render the mind the fittest possible instrument for discovering, applying, or obeying the laws under which God has placed the universe.

WAYLAND.

We regard education as the formation of the character, physical, intellectual, and moral; as the process by which our faculties are developed, cultivated, and directed, and by which we are prepared for our station and employment, for usefulness and happiness, for time and eternity.

W. C. WOODBRIDGE.

All intelligent thinkers upon the subject now utterly discard and repudiate the idea that reading and writing, with a knowledge of accounts, constitute education. The lowest claim which any intelligent man now prefers in its behalf is, that its domain extends over the threefold nature of man; over his body, training it by the systematic and intelligent observance of those benign laws which secure health, impart strength and prolong life; over his intellect, invigorating the mind, replenishing it with knowledge, and cultivating all these tastes, which are allied to virtue; and over his moral and religious susceptibilities also, dethroning selfishness, enthroning conscience, leading the affections outwardly in good-will towards man, and upward in gratitude, and reverence to God.

Far above and beyond all special qualifications for special pursuits, is the importance of forming to usefulness and honor the capacities which are common to all mankind. The endowments that belong to all, are of far greater consequences than the peculiarities of any. The practical farmer, the ingenious mechanic, the talented artist, the upright legislator or judge, the accomplished teacher, are only modifications or varieties of the original *man*. The man is the trunk; occupations and professions are only different qualities of the fruit it yields. The development of the common nature; the cultivation of the germs of intelligence, uprightness, benevolence, truth that belong to all; these are the principal, the aim, the end,—while special preparations for the field or the shop, for the forum or the desk, for the land or the sea, are but incidents.

The great necessities of a race like ours, in a world like ours, are: a Body, grown from its elemental beginning, in health; compacted with strength and vital with activity in every part; impassive to heat and cold, and victorious over the vicissitudes of seasons and zones; not crippled by disease nor stricken down by early death; not shrinking from bravest effort, but panting, like fleetest runner, less for the prize than for the joy of the race; and rejuvenant amid the frosts of age. A Mind, as strong for the immortal as is the body for the mortal life; alike enlightened by the wisdom and beacons by the errors of the past; through intelligence of the laws of nature, guiding her elemental forces, as it directs the limbs of its own body through the nerves of motion, thus making alliance with the exhaustless forces of nature for its strength and clothing itself with her endless charms for its beauty, and, wherever it goes, carrying a sun in its hand with which to explore the realms of nature, and reveal her yet hidden truths. And then a Moral Nature, presiding like a divinity over the whole, banishing sorrow and pain, gathering in earthly joys and immortal hopes, and transfigured and rapt by the sovereign and sublime aspiration TO KNOW AND DO THE WILL OF GOD.

HORACE MANN.

THE MILITARY ACADEMY AT WEST POINT.

I. ORIGIN AND HISTORY. PERIOD I.—1802-1812.

THE influence of the United States Military Academy, upon education, as well as its wide reputation as a school of science, render an inquiry into its rise and progress, a subject both of interest and profit. Since it is mind, rather than any system of forms and studies, which gives power to such institutions, a mere statement of dates and facts is insufficient to give us a just view of its character. We must, if possible, trace the spirit of the men who guided, and the principles impressed upon it. To do this, we shall resort, not merely to the record of events, but to our memory of men and acts, with which we were for years familiar.

It was not to be expected, that schools of refined, scientific art should be founded by small colonies in the wilderness of the new world. When even their clergymen must resort to Europe for education, and their lawyers for license, it was in vain to expect their soldiers to be accomplished engineers. When the revolutionary war came on, this fact became a painful experience. No man felt it more than Washington. With a people, whose patriotism was unquenchable; with soldiers, who rivaled the warriors of Leonidas, he found the best and truest of men, with the smallest possible share of military science. He was obliged to depend on European engineers for a skill which his countrymen did not possess; while their European ideas, and artificial habits were displeasing to his American principles.* He felt military instruction to be a primary want in the country. Accordingly, he was the real founder of the Military Academy; that is, he put forth the *germinal idea*. What the plan of it was to be, and what shape it should ultimately take, he did not state, and probably had not thought of; for Washington in the office of president, seldom meddled with the details of public affairs. What he meant to obtain, however, he distinctly stated, in his message, dated December 3rd, 1793, in referring to measures of national defense, he says an inquiry may be made: "whether

* Vide, Washington Letters.

your own experience, in the several states has not detected some imperfection in the scheme; and whether a material feature in the improvement of it ought not to be to afford an opportunity for the study of those branches of the military art which can scarcely ever be obtained by practice alone."

In his message of December 7th, 1796, he said: "Whatever, argument may be drawn from particular examples, superficially viewed, a thorough examination of the subject will evince that the art of war is at once comprehensive and complicated; that it demands much previous study, and that the profession of it in its most improved and perfect state, is always of great moment to the security of a nation. This, therefore, ought to be a serious care of every government; and for this purpose an academy, where a regular course of instruction is given, is an obvious expedient, which different nations have employed."*

The views, always entertained, and repeatedly expressed by General Washington, were adopted by Mr. Adams and Mr. McHenry, secretary of war, in his administration, made an elaborate report on this subject, which was transmitted to congress, on 10th of December, 1800. It is due to Mr. McHenry, to say that his ideas of what ought to be a course of military instruction, were far in advance of what were actually provided, till after the war of 1812-'15 proved his ideas to be correct. In 1794, prior to the last message of Washington, congress attempted to supply the want of a military academy, by attaching cadets to the corps of artillerists, and engineers. This corps consisted of four battalions, to each of which eight cadets were to be attached. This made the whole number of cadets thirty-two; and for this corps of artillerists, engineers and cadets, the secretary of war was directed to procure books, instruments and apparatus. The term *cadet* signifying in French, the youngest brother of a family, and in Spanish, a young volunteer officer, became naturally applied to young men, who were junior, volunteer officers. In England, the *cadet* of a family was a young son, who volunteered for the India service; and in the United States has been properly applied to the youth, who enter the military academy.

It seems from the message of Washington, in 1796, that the attempt at military instruction, was a failure. No place, no teachers, no studies, were appointed. It was on the 16th of March, 1802, in

* It is not meant to say that this subject was not mentioned before. It was by Col. Pickering, in 1783. But whoever reads the letters and memoirs of Washington, will see, that all the early ideas on the subject of military education and military science were derived from the experience of Washington.

the early administration of Mr. Jefferson, that congress established, by that name, the *Military Academy*. It was still made part of an army corps; the idea of making a separate institution for scientific studies not being yet matured. The artillerists and engineers were made two distinct corps, of which there were forty cadets of artillery and ten of engineers. The corps of engineers consisted of a major, two captains, four lieutenants, and ten cadets, making seventeen in all. *The corps constituted the military academy*, established at West Point, in the State of New York. So little idea was then entertained of the true objects and mode of scientific instruction, that the law required the cadet, as well as officer, to do duty in any part of the United States. In other words, the only idea of the military academy, at that time, was a *place appointed where the officers of engineers might give or receive instruction, when not on other duty*. The actual academy, such as it was, conformed to that idea. The major of engineers was the commander, or superintendent. The two captains were instructors, and the cadets were pupils. It was, as a school, an inchoate existence, without regular teachers, or limited studies, or proper discipline. Yet, even in this imperfect condition, it did, as we shall see, some service which ought to be gratefully remembered.

In the meanwhile, let us turn for a moment, to the *place* which is so memorable in the annals of this country, and is now so intimately associated with science. If Dr. Beattie is correct in saying that the character of the mind is much associated with natural scenery, no place in America could have been more wisely selected, as the site of a national institution. World renowned, as West Point justly is, there is that in its scenery and associations, more interesting to a poetic or a patriotic mind, than its famed Academy. Its green plain, hidden amidst its mountains; its craggy summits; its rocky barriers; its dark evergreens; its darker waters, flowing on forever; that beautiful view of town and country, seen through the frowning brows of Crow Nest and the Beacon; that quiet vale, where Washington oft bent his steps, were lonely little mounds, where the soldiers of the Revolution repose; these forts and ramparts now indistinctly seen, which once guarded these mountain passes; yon ledge of rocks, where Kosciusko once made his little garden; all these and other memorable things, call up whatever is sublime in nature, or noble in history. It is impossible to forget them. It is impossible for the dullest mind, not to have its sensibilities excited, or its character elevated by the contemplation of such sublime scenes, or such interesting events. When such a spot

becomes the place of our education, its memories become poetic; its associations mingle with the flow of life, and the structure of our minds.

To return. The law having authorized this ideal Academy, it was immediately instituted, by the appointment of officers. The Academy, it is seen, was on quite a small scale. In fact, so far as teaching was concerned, the Academy consisted of two captains of engineers and ten cadets. The two captains were WILLIAM H. BARRON and JARED MANSFIELD. Mr. Mansfield had been a teacher of mathematics, navigation, and the classics, first at New Haven, (Conn.) and then at Philadelphia. He had written a volume of "Essays" on mathematics and physics, quite original, and distinguishing him at that time, as the first mathematician of his country. This was brought to the notice of Mr. Jefferson, who with no great love of military affairs, was a warm friend of science. When the act was passed authorizing the Military Academy, Mr. Jefferson wrote to Mr. Mansfield, that he would appoint him a captain of engineers, for the *very purpose of becoming a teacher at West Point*. Accordingly he was appointed, on May 3rd, 1802; Captain Barron had been appointed in April. Then, in May 1802, the actual Military Academy was constituted, Captains Barron and Mansfield being teachers of mathematics and philosophy, to some half dozen or more cadets and lieutenants. No professor of engineering or of any other department was appointed before 1812. In pursuing the course and growth of instruction at West Point, during this period of ten years, we can only refer to the services of the instructors and graduates. In fact, there were no graduates prior to 1815; but there were *appointments* made from the cadets of the Military Academy, after more or less study at West Point. To understand what was done, we must refer to the actions of teachers and cadets, rather than to history. Its teachers were few and its annals brief. Captain Mansfield, after a year's teaching at West Point, was in 1808, appointed by Mr. Jefferson, to a more responsible position. It was necessary to the correctness of our public surveys, that the meridian lines and the base lines (which are co-ordinates,) should be established with astronomical accuracy. For this purpose, Captain Mansfield was appointed surveyor general of the north-western territory; furnished with astronomical instruments, and taking his residence in Ohio, proceeded to establish and perfect that beautiful system of surveys, by which the north-western states are distinguished. Retaining his military bent, with a view to his original destination at West Point, he actually returned there in 1814, to

recommence, as we shall see hereafter, his career as an instructor in the national institution. Of Captain Barron, his co-teacher, we only know that he was relieved in February, 1807. At the same time, his successor, FERDINAND R. HASSLER, was appointed, and remained till he resigned in 1810. Mr. Hassler was, we believe, a Swiss by birth. He wrote a small treatise on mathematics, and had quite an extensive reputation, as a mathematician, but was said to be too analytical and refined in the character of his mind, for American practical habits. He was intended for the coast survey, and, we believe, actually commenced it.

In November, 1806, ALDEN PARTRIDGE, superintendent of engineers, was appointed *acting assistant* professor of mathematics, and retained that position till April, 1812.

The "Teacherships" of French and drawing were created, by the act of February, 1803, being a very important addition to the original scheme of the Academy. To the teachership of French, FRANCIS DE MASSON was appointed, March, 1804, and resigned in March, 1812. To the teachership of drawing, CHRISTIAN E. ZOELLER was appointed, September, 1808, and resigned in April, 1810. Mr. Masson was a Frenchman by birth; Mr. Zoeller, a Swiss. Mr. Masson was highly spoken of by Colonel Williams, a good judge of what constitutes a scholar. Mr. Zoeller was an amiable man, of no high attainments, whose instruction in drawing was wholly confined to the military part, fortifications and bridges.

From this brief history, it appears, that there were but six teachers at West Point, between 1802 and 1812. Of these, no more than four were ever present at one time, and that only between 1808 and 1810. The teachers present, each year, were as follows:

1802—1803, . . . Captain Barron, Mathematics.

Captain Mansfield, Philosophy.

1804—1806, . . . Captain Barron, " "

Francis Masson, French.

1806—1807, . . . Captain Barron, Mathematics.

Francis Masson, French.

Alden Partridge, Mathematics.

1808—1810, . . . Ferdinand Hassler, " "

Alden Partridge, " "

Francis Masson, French.

Christian Zoeller, Drawing.

1810—1812, . . . Alden Partridge, Mathematics.

Francis Masson, French.

This glance at the actual teachers of West Point enables us to

see at a glance, what was done. No continuous study was pursued at all, except mathematics. For the eight years, between 1804 and 1812, French was taught by an able professor, Mr. Masson, and from 1808 to 1810, drawing. In 1812, this inchoate existence of the Academy was ended by the act of congress, reorganizing the institution, and placing it on a permanent and extensive foundation. The next period of five years, from 1812 to 1817, was the *forming* period of the Academy. In some respects, its elements were chaotic. In others, its *personnel* was inefficient and inharmonious. In others, again, its materials of instruction were inadequate. From this condition it finally emerged, and attained its present high character and usefulness. The history of this change is important, if not interesting to those who would understand what are the true foundations of a great school of education. In the meanwhile, let us return to what the CADETS of the Academy had done. If they were few, and with small means of instruction, they may nevertheless have shown that the Academy was not altogether fruitless. How many cadets were appointed between 1802 and 1812, we do not exactly know, but we have the number appointed *from the Academy*. The number of cadets promoted from the Academy during that period were for each year, thus:

In 1802, . . . 2.

In 1803, . . . 3.

In 1804, . . . 2.

In 1805, . . . 3.

In 1806, . . . 15.

In 1807, . . . 5.

In 1808, . . . 15.

In 1809, . . . 7.

In 1811, . . . 19.

In 1812, . . . 18.

This makes eighty-nine in ten years. Let us look at their career, as stated in the brief annals of the army; or, as they are retained in memory. Of this number, comprising ten cadets of more than half a century ago, this is the result:

Killed in battle, . . . 10.

Died in service, . . . 21.

In service, 7.

Resigned, 33.

Disbanded, 10.

Dropped, 3.

Dismissed, 4.

Declined, 1.

This is no bad roll. If we were to search our college rolls for those who had been really useful, those who died in battle, or served to the end, or entered other fields of usefulness, or now live in the performance of duty, we should find a less grateful exhibition than this. The number of those who had been "dropped," or "dismissed," for incompetence, or vice, would be far greater. Alas! if we could read the secret history of the college roll, how sad would be that account! We know, that in times past, many of the officers of the army were addicted to dissipation. Happily, we can say, many less now. But since we would estimate the value of the Military Academy, even in its most imperfect condition, let us see *who* some of these men were.

The first cadet appointed was General JOSEPH G. SWIFT,* who having risen to the rank of general of engineers and inspector of the Military Academy, resigned, became surveyor of the port of New York, and is now a venerable and respected citizen of Geneva. Of those who were killed in battle, *Eleazer D. Wood*, (whose monument stands at West Point,) was killed while loading a cannon, in the sortie from Fort Erie. Five others were killed on the Canada frontier, and four in battle with the Indians. Of those who died in service, *two* reached the rank of general, and *eight* that of field officers. Of those who are now in service, (7,) one is General JOSEPH G. TOTTEN, chief of the corps of engineers, who served on the Canada frontier in the war of 1812, and at the siege of Vera Cruz. One is Col. SYLVANUS THAYER, who served in the war of 1812-'15; who was superintendent of the Military Academy from 1817 to 1833, and to whom it is indebted for a large part of its usefulness. Of these gentlemen, we shall have more to say, when we refer to the forming period of the institution. Another is Colonel RENE DE RUSSR, who was distinguished in the battle of Plattsburg, and became superintendent of the Academy on the retirement of Col. Thayer. Of those who resigned or were disbanded, many died young; one became a member of congress and politician; and another, Col. WILLIAM McREE, was a remarkable man, distinguished for gallant conduct in the battle of Niagara and Fort Erie, a member of the board of engineers, and of cultivated mind; he resigned from the army and became surveyor general for Missouri and Arkansas, and finally died of cholera at St. Louis. Of the whole eighty-nine, who were commissioned prior to 1813, but twenty-one were alive in 1850, and several others have died since. The few

* The first diploma, which we suppose was a manuscript certificate, was the one given to the then Cadet SWIFT, and signed by Captains Barron, and Mansfield.

who now remain have seen more than half a century's service in useful employments. Perhaps it should be mentioned to the advantage of the Military Academy, as a school of physical education, that at the end of half a century, twenty of its pupils out of eighty-nine, should be yet alive. In twenty years of civil life, as appears from the United States census of 1830 and 1850, more than the same proportion of youth between ten and twenty years of age perished. The general strength and health of the pupils of West Point are beyond a doubt greater than that of the same number of young men brought up in the ordinary methods of education. This is not wholly due to physical exercises, but also to moral education, and to the care and comforts of their mode of life. Will any one deny that *discipline* is a part of moral education? Is not self-restraint, the regularity of habits, and the art of using the mind in intellectual pursuits, the most important elements of a moral education? It is to all these, and not merely the training and exercise of arms, that the élèves of the Academy owe so large a share of the health and strength of life.

In the period of its history which we have now examined, the Military Academy was really only in the germ of its existence. Like most other useful or remarkable enterprises, it was first thought of as a thing needed; then began without any clear idea of what it would become, and was then improved upon, till it grew to be of magnitude and importance.

PERIOD II.—1812—1825.

The Academy, in its germinal existence, whose history we have briefly traced, was obviously inadequate to supply the army and country with young men instructed in the art of war. Congress authorized the appointment of a large number of cadets. But the President did not act upon it, because there were neither professors, nor books, nor quarters, or material at West Point for their training. In 1808, Mr. Jefferson recommended an enlargement of the Academy. In 1810, Mr. Madison did the same. In vain, however, were these recommendations, till the nation was roused from its indolent repose by the sudden shock of war. In 1811, the battle of Tippecanoe electrified the people. The war-whoop sounded on the north-western frontier, and the aggressive conduct of Great Britain became insufferable. War was an imperious necessity. Then it was that the use if not necessity of an institution for military training became obvious to all reflecting minds. In April, 1812, the act was passed which erected the frame-work of the pres-

ent Military Academy. As this legal outline has been little changed since, it is necessary that we should look to its provisions, for correct ideas of what the law intended, and what has been substantially carried out in its growth and development.

1st. It was provided, that the number of cadets might be increased to two hundred and fifty, and attached at the discretion of the President as students to the Military Academy at West Point, and be subject to the regulations thereof.

2d. That these cadets should be between the ages of fourteen and twenty-one, and previous to his appointment should be well versed in reading, writing, and arithmetic.

3d. That the Military Academy should consist of the Corps of Engineers, the Professors of Philosophy, of Mathematics, of Engineering, with their assistants, and the teachers of French and Drawing.

4th. That when any cadet shall receive a regular degree from the Academical Staff, he shall be considered a candidate for a commission in any corps for which he shall be deemed competent.

In addition to these provisions for education, money was appropriated for buildings and books, and for a band of music. The expenditure provided for was very small, compared with the need of the Academy; but it was enough for a beginning. It was far easier, as we shall see, to provide for all its material wants, than to bring it into that state of moral and intellectual discipline, which was essential to the attainment of great results. The institution, in its former period, was in an inchoate condition. A few young officers, raised up partly as teachers, and partly as pupils, without a course of studies, without regulations, and without discipline, could furnish no just ideas, from experience, of what a highly intellectual, well-ordered school of science should be; and accordingly the want of just ideas of education was precisely what first stood in the way of making West Point what it subsequently became.

For more than five years there was a wrestling between old and new ideas. There was a positive ignorance of what high education should be. In fact, the country had no models for it. Then there were old habits to overcome. Lastly, there was a willfulness on the part of some in authority, opposed as long as opposition was possible, to any new idea of things. For people are aware, in this day of change and novelty, how strongly the *vis inertia* of intellectual habits opposes intellectual improvement. This very *vis inertia*, at first, almost nullified the power of law itself to improve and enlarge the studies at West Point. How it acted we shall see. The first

difficulty at West Point was, (after preparing the accommodations and material) in complying with the spirit of the law, and placing the *academic instruction on the high ground really intended*. To understand this we must here advert to some provisions of the law which were either overlooked or neglected. First, the law expressly recognized an *Academic Staff*, who should confer *degrees*. Secondly, that the cadets of West Point should be *students*, subject to the *regulations of the Academy*. All this evidently meant that these two hundred and fifty young men should be placed, like students in college, under regular academic instruction, and that the professors and teachers should constitute an academic faculty, with power to regulate the education of the cadets, and confer degrees according to merit. Ultimately this was accomplished; but it took much effort on the part of the Professors to bring the military authorities into a just conception of this scheme. During the years 1812 and 1813, little was done except in commencing buildings, buying apparatus, appointing the cadets, and getting ready for the real business of the institution. Here we must record the first academic faculty organized at West Point. The professorship of Natural and Experimental Philosophy, which was higher in rank and emoluments than the others, was instituted expressly for Col. JARED MANSFIELD, who, having retained his commission in the corps of engineers, while he was surveyor-general in the north-western states, was now (October, 1812,) appointed to the same professorship which he held ten years before. ANDREW ELLICOTT, who had been astronomer of the United States, and had a wide reputation for mathematical knowledge, was appointed professor of Mathematics, in September, 1813, at which time, also, ALDEN PARTRIDGE was appointed professor of Engineering. The teacher of drawing was CHRISTIAN E. ZOELLER, reappointed; and of French, FLORIMOND DE MASSON. This was the first academic faculty. Subsequently, the principal professors were allowed assistants, and other teachers were at still later periods provided in the departments of Ethics, Tactics, Artillery, Chemistry, &c., as the institution was enlarged, and its wants were better known. The gentlemen above named were, however, the first professors and the first faculty. They had the real *labor* and responsibility of taking the initial steps, and to a large extent, of forming the Military Academy. At the very first step a difficulty occurred, which could not have been anticipated. Captain ALDEN PARTRIDGE, (who was professor of Engineering) was superintendent of West Point, from January, 1815, to November, 1816—nearly two years. He was a man of strong will; of in-

dependent and rather eccentric ideas, who quite naturally as a military man, long resident at the Point, wished to forget that the law required the education of the institution to be decided by an academic faculty, and governed by regulations. He chose rather to remember that it was a military post, governed by a military commandant, and sought to gratify his own ambition by grasping its sole direction. Professors Mansfield and Ellicott, who held no command in the army, took a different view of the subject. They justly thought, that the object of the institution was to give a thorough *scientific education*, especially adapted to the art of war; that this required discipline, and a course of studies systematic and complete; and that all this was evidently contemplated by the law, which said that the Academy should be governed by regulations, and hence an academic faculty. This difference of opinion was vital. It led to a controversy of two years, which belongs to the private rather than the public history of the Academy. Little of it was known to the public, and we are now concerned only in the issue. Had the views of Captain Partridge prevailed, the institution never could have become what it is.* Fortunately, the Professors had the law on their side, and also the good opinion of the administration, and eventually gave to the scientific college the cast and features which it now has. For three years, between 1814 and 1817, this internal controversy continued, gradually tending to give the Academy a systematic organization. General JOSEPH G. SWIFT, (head of the corps of engineers,) who was officially inspector of the Academy, took up his residence at West Point, in November, 1816, but remained only two months. While there, there could be no controversy, as to the government of the Academy, since the commander of engineers was legally its chief. After the removal of General Swift, Captain Partridge, as senior officer, again took command. It was determined, however, to remove him; and the Government most fortunately hit upon an officer, whose character, education, and accomplishments, most eminently fitted him for the post of governing, and disciplining the young men, who were in turn to become the *savans* as well as the ornaments of their country. This officer was SYLVANUS THAYER, a native of Massachusetts, commissioner in 1808, from West Point, to the engineer corps, and who had recently traveled in Europe, examining the military schools of France and Germany. The arrival of Colonel Thayer constitutes

* Captain Partridge, who was a useful and energetic man, had subsequently full opportunity of carrying out his popular views in the military schools of Norwich and Middletown, which he founded by his own efforts.

the most important epoch in the history of West Point. Why it is so will appear evident when we trace out the *scientific culture* of the Academy, and the discipline which it furnishes. Up to 1813, we have seen that the Military Academy was merely a small company of officers and cadets, who, being stationed at one post, were required while there to pursue certain mathematical and military studies. It had no one element of organization. From 1814 to 1817, professors Mansfield and Ellicott were struggling with no more than partial success, to give it organization and systematic instruction. But, in 1817, Colonel Thayer, who had seen in France what such institutions required, and where enlightened mind realized the necessity of adopting better methods, at once coöperated with the Professors, in making a permanent and successful reform.

At this point we should notice the additions made to the academic staff, between 1816 and 1819, and the steps taken by the war department toward carrying out the views of the Professors, and Colonel Thayer. CLAUDE CROZET was appointed professor of Engineering, in March, 1817; DAVID B. DOUGLAS was appointed assistant professor of Natural Philosophy, in January, 1815; CHARLES DAVIES was appointed assistant professor of Mathematics in December, 1816. Rev. THOMAS PICTON was appointed Chaplain, and professor of Ethics, in July, 1818. THOMAS GIMBREDE was appointed teacher of Drawing, in January, 1819. Major JOHN BLISS, instructor of Tactics, in April, 1818; Lieut. GEORGE W. GARDINER, instructor of Artillery, in September, 1817. CLAUDIUS BERARD succeeded Francis Masson, as teacher of French, in January, 1815; JOSEPH DU COMMUN was appointed second teacher of French, in March, 1818. Of the old professors, Captain Partridge and Francis Masson were gone; all the others remain. Thus, in 1817, when Colonel Thayer took charge of the Academy, the corps of teachers was composed of professors Mansfield, Ellicott, and Crozet; teachers Zoeller and Berard; and assistant professors Douglas and Davies, exclusive of the military teachers and of those appointed in 1818 and 1819. This was properly the Academic Staff, and Colonel Thayer was willing and pleased to have them take their proper part in organizing the institution, and raising it to that high standard of discipline and excellence to which it has since attained. In the meanwhile, the war department, under the enlightened administration of Mr. Crawford, had endeavored to supply some of the obvious defects of the Academy, by new regulations.

So far we have pursued the history of the Academy, as it progressed from a germinal idea to actual being and life. It is now

necessary to trace that system of *scientific culture* which is its essential element and peculiar character. In this the student of education may be more interested, and as we trace it still further, in its *fruits*, the education and services of more than two thousand young men, who have held the most important positions in all the departments of life, we shall be better able to pronounce a just judgment upon its merits and services.

Mr. CRAWFORD, one of the most enlightened men who have appeared in public affairs, was, we believe, the first to understand and attempt to remedy the defects and irregularities which professors Mansfield and Ellicott had pointed out.* In March, 1816, "Rules and Regulations" were drawn up by Mr. Crawford. The main points in them were—

1. There shall be a Board of Visitors, to consist of five suitable gentlemen, who shall attend each annual examination.
2. There shall be two General Examinations twice in each year; in July and December, and an annual vacation in July and August.
3. Cadets shall be admitted in September, and examined in spelling, reading, writing, and arithmetic.
4. A course of studies, embracing definitely all branches of science and instruction to be procured, and rules for classification shall be drawn up, and comprise a complete course of education at the institution.

According to the last regulation, a course of studies was drawn up by the Academic Faculty, and approved by Mr. Crawford, in July, 1816. This course comprised four years, and was substantially the same (although largely increased,) which has been pursued since.

The *first year* studies were English Grammar, French, Algebra, Geometry, and Logarithms.

The *second year* comprised French, Geometrical Construction, Application of Algebra, Mensuration, Plain and Spheric Trigonometry, the Conic Sections, and Drawing.

The *third year*, Natural and Experimental Philosophy, Astronomy, and Drawing.

The *fourth year*, Engineering, Geography, History, and Ethics.

In the first draft, Engineering was put in the third year; but since 1817, has been placed in the fourth. In a year or two afterwards was added the Calculus; and in a few years, Chemistry, Min-

* These defects and irregularities arose from not obeying the law, and not pursuing the ideas it pointed out. The great effort of Professors Mansfield and Ellicott, was to get the spirit of the law followed practically.

eralogy, and Natural Law. This course of studies is exclusive of the purely military part, which under the heads of Tactics, Practical Artillery and Gunnery, occupied several hours each day.

Thus, in July, 1816, the Academy had for the first time arrived at a course of studies, and a preparation for discipline. In the fall and winter of 1816, began an attempt to carry this course of studies into practical effect. We do not say there had been no studies and no attempt at classification before that, for there were, but that nothing had really been perfected in either, till after the "regulations" of 1816. If we could carry the reader back to the year 1815, and see the difficulties under which the professor of that day labored, the small material provided, and the undisciplined condition of the young men under their charge, we should give better views of the merits and services of its pioneer teachers. One or two reminiscences may possibly throw some light on the subject. Colonel Mansfield arrived at West Point in 1814, and immediately sought for his pupils. He was not like the professors of whom Gibbon speaks, remembering that he had a salary to receive, but forgetting he had duties to perform. On the contrary, he immediately asked for pupils to teach. What was he to teach? Philosophy and Astronomy. But these required prior training, and it was not till the winter of 1814-'15, that he could find any pupils. Then he found *five* young men who thought that they could go on in such studies. For want of any recitation rooms at the Point, he taught them in the parlor of his own house. As we shall refer specifically to the subject of text-books, we merely add, that the only work to be found at all suitable, was *Enfield's Philosophy*. There was no classification, and in a few months these five cadets were commissioned. They made the first class in Philosophy, taught at West Point.

Again, there are some who will recollect Professor Ellicott, sitting at his desk at the end of a long room, in the second story of what was called the Mess Hall, teaching Geometry or Algebra, looking and acting precisely like the old-fashioned schoolmaster, of whom it was written,

"And still they gazed, and still the wonder grew,
That one small head could carry all he knew."

The cadets were all "boys" to him, and his kind face was long remembered. In the other end of this room, or in the next, was seen his acting assistant, Stephen H. Long, then a young lieutenant of engineers; since distinguished as a traveler, an engineer, and a man of science. The text-book used was "Hutton's Mathematics," and

at that time the best to be had. Mr. Hutton had been a professor at Woolwich, England, and his treatises were plain, simple, easily understood, and therefore well adapted to beginners. It was, however, very deficient both in extent and analysis. It was a good text-book then, for there were no cadets trained to pursue deeper or more analytical works. With Hutton's Mathematics, Enfield's Philosophy, and plain right-lined drawing, and nothing which could be called engineering, did the cadets of the Academy get along, without roll, classification, or graduation, till the close of 1816.

In August, 1817, as we have said, Colonel Thayer became superintendent at West Point; and in the course of the next four or five years the Academy passed through the great changes which brought it from the inchoate to the crystallized state in which it now appears. The most important of these changes relate to scientific culture; and we shall best describe them by narrating the *actual work* the classes then pursued, and the change of text-books. The first step was taken, as we have seen, in March, 1816, by the regulations of Mr. Crawford, which required classification, a course of studies, and annual examinations. Some steps towards these were taken in 1816, but very imperfectly. In 1817 the system of classification was first systematically began. CLAUDE CROZET, a French officer under Napoleon, and a pupil of the Polytechnique School, was appointed professor of engineering, in March, 1817. The annual examination coming on in June, the course of studies in his department did not regularly commence till September, and the second or junior class* of 1817-'18 was the *first* class which commenced thoroughly the severe and complete course of studies at West Point. The *labors* of that class in the years 1818 and 1819 may have been equaled, but certainly have not been surpassed. It was not a brilliant class, but its labors were not the less on that account. It had not merely to pass over the plain turnpike road of science which is now made so easy to those who follow; but, like the pioneers of an army, had to cut down the obstructions, make their own bridges, and to no small extent, furnish their own munitions. Let us look into the class-room of 1817, as professor Crozet advances to instruct those

* The Class here spoken of graduated in 1819. Of its living members, are HENRY BREWERTON, late Superintendent at West Point; EDWARD D. MANSFIELD, Commissioner of Statistics for the State of Ohio; JUSTIN DIMMICK, late Commander of Fortress Monroe; DANIEL TYLER, a distinguished Engineer and General in the Army of the Potomac; WM. H. SWIFT, a distinguished Engineer, and President of the Illinois Canal Company; JOSHUA BAKER, a Civil Engineer, Judge, and Planter, in Louisiana; and Major TURNBULL, distinguished as a Topographical Engineer in the War with Mexico.

Among the dead was GEORGE H. WHISTLER, the most distinguished Civil Engineer our country has produced.

young men in studies, which were not only new to them, but entirely unheard of, and in which the language to which they were born and bred furnished not a single text-book. Professor Crozet was to teach engineering; but when he met the class, he found not one of them fit to learn engineering. These were branches of science, and its affiliations, essentially necessary to engineering, which they had never been taught. What was he to do? All he could do obviously was to supply these preliminary studies before he could commence in his own department. In other words, he must begin by becoming a teacher of mathematics, and drawing. The surprise of the French engineer instructed in the Polytechnique may well be imagined when he commenced giving his class certain problems and instructions, which not one of them could comprehend or perform. Among these preliminary studies was Descriptive Geometry, not an original and distinct science, but which by *projecting* geometrical figures and problems on co-ordinate planes, gave a more facile and practical mode of *representing* (as its name implies,) as well as solving many geometrical and practical problems. This, too, required an accurate knowledge of mathematical and perspective drawing, and its various minor but important arts. We doubt whether at that time more than a dozen or two professors of science in this country knew there was such a thing; *certainly* they never taught it, and equally certain, there was not a text-book in the English language. Perhaps this is not surprising, when we reflect, that this new application of geometry was scarcely thirty years old. Monge, a French savans, was, we believe, the author of this system, about the beginning of the French Revolution. Crozet meant to begin with Descriptive Geometry, but fortunately, the class was not in the last year of the course (in which engineering has recently been taught,) and could spare some time for mere mathematics. But, a new difficulty arose. There was no text-book in English, and none to be had just then in French. Geometry is not a thing to be taught orally. What is to be done? It was here at this precise time that Crozet, by aid of the carpenter and painter, introduced the *black-board* and chalk. It is a very simple thing, and so is every thing which is useful; but we know of no mere adjunct of teaching, so useful as the blackboard. To professor Crozet, so far as we know, is due the introduction of this simple and useful machine. He found it, with many other things, far superior to the English methods in the Polytechnique of France.

We now see Crozet with his blackboard before him, chalk in hand, and animated, intellectual face, about to teach his class a new sci-

ence, without a text-book. Again he meets a new difficulty. He does not more than half understand the American language. This difficulty is only to be overcome by practice. With extreme difficulty he makes himself understood. With extreme difficulty his class comprehend that two planes at right-angles with one another are to be understood on the same surface of the blackboard on which are represented two different projections of the same object. But, at last it is done. The Professor labors with inexhaustible patience, and the pupils are pleased to receive into their minds entirely new ideas. The first problems are drawn and demonstrated on the blackboard, by the Professor; then drawn and demonstrated by the pupils, and then accurately copied into permanent drawings; and thus this class were taught in the most important and valuable method of imparting true knowledge, which has been given to mankind since the days of Socrates. Fortunately, professor Crozet had brought with him the complete drawings of the French Polytechnique, so that he was not, in this particular, obliged to depend upon himself. The path of his instruction soon became easier, and then this class completed their course in drawing, mathematics, and Engineering.

In the study of Natural Philosophy and Mechanics, the way was scarcely less difficult. We have already said, that Enfield's Philosophy was the first book on that subject. But this was not enough. Professor Mansfield looked around in vain for any suitable book on Mechanics. At last, *Gregory's Mechanics* was adopted. It was a book without any analysis, and probably written only for scientific men. Yet, it was the best to be had. For several years after, this work still remained the best book on Mechanics. Whether the class who first studied its mysterious pages acquired as clear and extensive ideas of the subject as those who have since passed over smoother roads, may be doubtful. It is certain they had more arduous labors. We have said there was no text-book on engineering, as a science. When the class which had commenced Descriptive Geometry, with professor Crozet, (then the second or the junior class,) had become the first class, they were instructed in engineering by drawings from oral teaching, on the blackboard. The various modes of laying out fortifications, of bridging, of defiling, of materials, ordnance, &c., was taught by professor Crozet. For several years no text-book in engineering was found. It was not till 1823 that a French treatise, entitled the Science of War and Fortification, was translated by Major O'Connor, and for several years used as a text-book. It will be seen that the class which, in 1817,

1818, and 1819, commenced the new culture and discipline of West Point, had an arduous and difficult task. It is, notwithstanding, quite probable, that this severe exercise of the mind, in making paths for itself, where there are no guide-posts on the way, no regal road, is a better discipline than that furnished by the more easy and systematic methods.

Perhaps no one step taken at West Point, has contributed so much to intellectual culture as the Merit-Roll. The effect at the Military Academy is totally different from what it would be at any civil institution. For there it determines *rank*, which is the great object of military men. Forty young men may be commissioned on the same day to the same grade, but through all their after life, even when they return to civil life, the distinctions of the merit-roll will follow them, and be counted for or against them. In the very first day of their commissioned service, the distinction is a practical one, for there are great and practical advantages in certain *arms* of the service over others. Thus the engineer officer, without any actual care of men, or responsibility for any movements, and almost always stationed at comfortable posts, have great advantages over other arms. The Artillery has advantages over the Infantry. Thus the cadet, commissioned from West Point, has determined for himself, by his position on the merit-roll, not only his rank in the army, but almost his position in human life. The merit-roll, as it now exists, graduated in all departments, and summed up at the close of the course, was not adopted at once, but was the work of several years.

In February, 1818, the superintendent of the Academy was directed by the Secretary at War to publish in the Army Register the "names of cadets who are distinguished for attainments, and meritorious conduct, not exceeding five in each class, specifying the studies in which they may excel."

We well recollect with what excitement and interest this communication was received by the cadets of that day, especially by those who thought themselves within the probabilities of that distinction. It unquestionably stimulated most of the young men to much greater exertions than they would otherwise have made. In a few months after, the merit-roll was fully established in the classes, and the rank of the graduating cadets determined by it.

There has been much discussion, and no small doubt, as to the real effects of emulation. There is undoubtedly a bad sense, and a bad effect attached to that term. But is that a necessary consequence of the merit-roll? Is not the merit-roll adopted, so far as it

can be ascertained, in all departments of human life? Who would risk himself with an ignorant engineer, if he can get a skilled one? Who would employ a poor clerk if he could get a good one? The objection made to emulation is that it excites wrong motives. However this may be, and however casuists may regard it, it is quite certain that the merit-roll is the strongest stimulant to intellectual exertion which can be presented to young men. Nor can we perceive, after much observation on its effect, that it has impaired the purely moral motives of action, or excited evil passions, to be remembered in after life. At West Point all the moral actions which are visible and tangible are brought within the scale of the merit-roll, and often the fate of a young man is determined far more by his standing in conduct, than in studies.

II. STUDY, DISCIPLINE, AND FRUITS.

Having thus sketched the historical progress of the Academy in the path of scientific culture, it remains for us to state what it is; what it has *done*; and what men have *conducted* it.

Without entering into minute details, we shall very briefly state the present methods of study and discipline. The leading studies in their order are Mathematics, Natural Philosophy, Mechanics, Astronomy, Engineering, Chemistry, French, Tactics, Artillery Practice, Mineralogy, Ethics, and History. This course is wholly scientific, the practical part being adapted strictly to military purposes. In the early period of the institution, some attempt was made to introduce the classics, but it was found impracticable, with the limited time allowed the cadets. Indeed, it may be doubted whether any institution can have more than one *tone*. All branches of human learning may be embraced in the proper schedule of university instruction; but has any university given equal attention to all branches of education? What are called colleges in our country, all aim at fitting young men for the civil professions—Law, Medicine, and Theology. They therefore make the classics the principal branch of study, and are right, since Law, Medicine, and Theology have their foundation deep laid in the classic ages. Literature also is a part of professional knowledge, necessary to adorn and illustrate the history and theory of professional science. Hence, in these lines of instruction specially have run the studies of the college, and from these is derived the *tone* of college education. The object of the Military Academy was totally different. It was not civil, but martial life, for which the young men were fitting. It was neither a metaphysical discussion, nor a hair-splitting argument

on the law, in which they were expected to excel. They were to learn the sterner arguments of the battle-field; to arrange squadrons for the hardy fight; to acquire that profound knowledge of the science and materials of nature, which should fit them for the complicated art of war; to defend and attack cities; to bridge rivers; to make roads; to provide armaments; to arrange munitions; to understand the topography of countries; and to foresee and provide all the resources necessary to national defense. This was the object of the Military Academy, and to that one end it was adapted. The method of education may be happily stated under the heads of Studies, Physical and Moral Discipline, and of Military Exercises.

1. The subjects and method of study we have already mentioned; Mathematical, Philosophical, Mechanical, Chemical, Military, and French, the military language. These being the chief topics of study, the students and the time were suitably divided into classes and hours. There are four classes, occupying four years, as usual in colleges. There are ten months of study, the intermission being in the hot months of July and August, when only military studies and exercises are pursued. The studies of a day are necessarily modified, by the introduction of military exercises which consume much time. The regular *study hours* (which includes also the recitations,) are from 8 A. M. to 1 P. M., and from 2 P. M. to 4 P. M., making *seven hours* of study and recitations. Generally *four hours* more are consumed in military exercise and discipline, being the hours before breakfast, and after 4 P. M. Thus *eleven hours* are generally occupied either in study or exercises. The evening also after dark, is devoted to study in so far that with occasional exceptions, the cadets are required to be in the rooms. In this division of time we find a *continual alternation of study and exercise*; leaving the least possible time for idleness, or mere amusement. Indeed, the problem of education is to find the *maximum of development*, with the *minimum of idleness*. To this should be added, that the development should be co-relatively, intellectual, physical, and moral.* It is not merely ignorance, but *unequal* development, which is the great misfortune of mankind. How many great and glorious intellects have been lost, because there were no counter-balances to the

* We use the word *moral*, in preference to *spiritual*, because, in its comprehensive sense, including the latter; but by no means intimating, that in this Christian country, we should make any place of education a mere reproduction of Persian or Greek models. Our servile imitation of the Ancients, often makes us forget that we are neither Spartans nor Romans. The man who attempts at this day to revive the institutions of Pagan Greece, is as false to true Philosophy, as he is to true Christianity.

force which, inclined in only one direction, carried them off into a wilderness of fruitless objects!

In the course of studies pursued at West Point, the main feature is the *method* of study. We can give an idea of this in a few words. The very first thing done at West Point is to *recognize* the fact, that *intellects are unequal*; in other words, that of a given number of young men, commencing a severe and elaborate course of studies, there will be some who can not endure it, and can not get through; and others, who while they will come up to the requisites for graduation, can not equal a third class, who are capable and ambitious of receiving the highest style of education. This recognition is effected thus: a class enters the Academy, we will say *eighty* in number. This class enters on the 1st of September; and on the 1st of January there is a semi-annual examination. This four months of study by that class is regarded as a period of *probation*, which will furnish some test of the abilities of its several members. When the January examination is held, some are found deficient, and they are at once discarded. Then the remaining class are numbered, according to what is then their *apparent* merit, and they are divided into *sections* of from fifteen to twenty each; those highest on the roll being placed in the first section; those next in the second, &c. Usually there are four of these sections. The professor usually teaches the first section; his assistant the second, and so on. It is obviously a decided advantage to be in the first section, and there is usually a struggle to get there. But, a cadet may change his position in his class, at any time, by his own efforts. This he can only do, however, by more strenuous efforts. Then, if he be in the second section, he may at the end of the year be found to have a higher aggregate of good marks in study and conduct than some of those in the first section. In that case he will be transferred. Thus the ambition of the student has always placed before it the possibility of higher class rank, and if his talents and industry are capable of it, he will attain it.

The *method* of study at West Point, which in all institutions is the important point, is the *rigidly demonstrative*, in those studies which admit of it, and the *positively practical* in those which do not. The course of studies requires this, if the subjects of study are to be thoroughly understood. There is little of the purely metaphysical or transcendental known or pursued at West Point. No abstract speculations or merely theoretical inquiries occupy their minds. It is the actually knowing, and doing, in which they are engaged. As far as can be made practically useful, the *oral* method

is pursued. In mathematical and mechanical, engineering and tactical studies, this is largely the case. The blackboard, we have said, was first introduced into this country by Professor Crozet, at West Point. How largely this is used in all institutions of education now, our readers well know. It has proved one of the most efficient means of instruction at West Point. The student of the mathematical section, for example, begins with a text-book on Algebra, in his hand; but, it is on the blackboard where the workings of his mind are chiefly exhibited. He learns what he can from the book, but, on the blackboard the professor makes him trace out what he has done, not merely by telling what he knows, but what he don't know; detects his weak place, and forces his mind (so far as such force is possible,) to *think*, and think rightly on the subject before him. This *thinking*, we need not tell experienced teachers, is the great thing which education is to teach. If a student can not, or will not think studiously and industriously, he will not long remain at West Point. There is not, as in civil colleges, the great fallow field of poetry, history, and metaphysics, in which he may show his classical professor that he has acquired rich things, although ignorant of mathematics. It will not do to say that he has wandered with Greeks and Romans around the ruins of Troy, or by the waters of Babel. There is no such compensating principle in the system at West Point. The cadet must study what is set before him; must study it hard; must think upon it, and discipline his mind to systematic modes of thought.

2. This leads us to the Specific Discipline of the Academy. This is partially included in what we have already said. The intellectual discipline is mainly maintained by the method of study; but there is a grand and perfect system of discipline, which we may briefly describe. The term *DISCIPLINE* is derived from *discipulus*, *discipulus*, and means originally *teaching* of knowledge; but this is not all, nor entirely its modern sense. Discipline is *training* in knowledge and virtue, in order and diligence, in good conduct, and good habits. To do this requires a control of the body as well as mind; of food and raiment; of time and exercise; as well as the imparting of facts and ideas. It was in the former sense rather than of the latter, that the word *EDUCATION*, (to lead forth,) was understood among the ancients, and so far as they went they were right. It was this *discipline* in virtue, temperance, courage, fortitude, and self-denial, which was taught in the days of Persian Cyrus, and Greek Leonidas. It was adopted among the early Christians; but, Cowper well said:—

"In colleges and halls in ancient days,
When learning, virtue, piety, and truth
Were precious, and inculcated with care,
There dwelt a sage called Discipline.

* * * * *
But Discipline, a faithful servant long,
Declin'd at length into the vale of years."

Nothing can be more certain than the decline of "discipline" in modern civil institutions. "Colleges and Halls" advertise a much enlarged course of studies; they call to their aid the most learned professors; and they proclaim "all the modern improvement," and yet it is quite certain, that a pupil can walk for years their learned halls, and at last receive the honors of graduation with a very small share of either learning, diligence, or virtue. Civil institutions may be most excellent for all, who either by early care or natural inclination are willing to use their opportunities for their intellectual or moral advancement. Nay, more, all open irregularities will be corrected, and all possible means afforded for spiritual improvement. But there are two things impossible to overcome—the popular and almost universal license allowed youth, (under the name of freedom) and the total want of any ultimate power to restrain it. These stand directly in the way of thorough discipline. At a Government Military Institution, this is directly reversed. The very first thing taught is *positive obedience*. The cadet can not be a week at West Point without knowing that he can not govern himself, but must be governed by others. If he is either not fit or not willing, the faculty meet the case in short and decisive language: "If you are either unable or unwilling to pursue the course of study and discipline, we direct you must instantly go. There are plenty more worthy to fill your place." There is, then, no alternative for the cadet but to go forward, and exert himself to the utmost, or not to go at all. There can be no loitering by the way, to slumber in idleness, or waste in dissipation, or pursue the pleasures of literature. There is no doubt that this stern and constant discipline is the great merit of West Point. It acts on the whole conduct and character. We have already said, that the class-standing determined by the merit-roll, determined their position relatively, and their rank in the army, and by consequence, great distinctions and differences in after life.

Let us see how this merit-roll is made up. The *first* thing done is to *mark* each cadet with a *figure* (having relation to an agreed scale of numbers,) for every act done or undone, in study, conduct,

drill, attention, &c. The *second* is to agree upon the *relative values* of each study, conduct, &c., in aggregating the whole positive or negative performance of a cadet, in his whole course at West Point. The summation of these for any one year gives his class-standing for that year, and the summation for the whole course gives his standing at the time of graduation, and his rank in the army.

Formerly, and we believe yet, the mode of marking and summing up for standing, was this. Each professor or teacher marked for one performance one of seven marks, from—3 to +3. This being purely artificial may be changed. But it is in this way the marking is made. Then in regard to *relative values* of study and conduct, the scale formerly was:—

Mathematics,	300.
Philosophy and Mechanics,	300.
Engineering and Military Science,	300.
Chemistry and Mineralogy,	200.
Moral and Political Philosophy,	200.
Conduct,	300.
Infantry Tactics,	150.
Artillery Practice,	150.
French,	100.
Drawing,	100.

To obtain 2,100, the aggregate, a cadet must never have failed in a recitation, or been absent from a military duty, derelict in the least particular. This most rarely if ever happens. Not to fall short more than 100, is evidence of very high standing.

It is evident, that under this system, emulation is highly excited, and, in fact, there must be a constant, unremitting effort to graduate at all. The general result is, that not more than one-half of all appointed were graduates. At the first semi-annual examination, many drop off; several more at the end of the first year, and more at the end of the second. Nearly all who survive the second year are graduated.

The only remaining point, peculiar to the system at West Point, is that of Military Exercises. As a Military Institution, this is a necessity, but it has also a great advantage as a means of Physical Education. This is a kind of education too much neglected, and for which civil colleges afford little opportunity, and no encouragement. The ordinary games, amusements, and walks in the field are relied upon to afford development to the body, and the natural tastes the only guide. So thought not Persian statesmen, Greek Philosopher, or Roman Senator. In contrast, a systematic

education of the body was a principle, and a practice, with all the civilized nations of antiquity. There was a constant attention to this in the training of youth; and the Olympian Games, the Gymnastic Exercises, and the Gladiatorial Shows, all had reference to this principle. If heathen nations could thus wisely attend to the healthy development of their bodies, can Christian people safely neglect it? There is no question that the Christian law of temperance, daily labor, good temper and amiable dispositions will do much to preserve health and strength. The health of the mind goes far to make the health of the body; but we must recollect that all students, properly so called—men who are set apart for the cultivation of learning and science—the *savans* of a country, are cut off at the very beginning, from that *daily labor* of the body, which in the dawn of human history was declared to be the necessity of man's existence. There is, therefore, a positive need of supplying by some system of salutary exercises, the place of that labor in which the farmer and mechanic are constantly exercised. What shall it be? Our common classical institutions have left this almost entirely to the student's own choice. Several hours of the day are left to the student to employ as he pleases. Does not experience prove, that he is quite as apt to employ this in novel reading, or playing cards, or visiting, or (in the case of an ambitious pupil,) in studying or reading the classics, as in any systematic method of exercise? Let the early dead of consumption, the victims of dissipation, and the unhappy subjects of chronic diseases, teach the living, that education consists not merely in spurring the mind on to intellectual feats, however admirable. The bird soars through the mid-heavens, but soars on the strength of his wings; and if he had the soul of Socrates, would still fall, when they are exhausted.

The military exercises, at West Point, accomplish some great results. They give an admirable exercise to the body, and they occupy time which might, be wasted, and they compel the cadets to give up late night studies. Let us begin with the last. Nothing is more common among the ambitious students of colleges, than to set up late at night. To burn the midnight oil, in order to accompany every thought in the realms of Plato, or fight with Hector on the plains of Troy, or pursue the phantom of metaphysics, or the genius of literature through the bright worlds of fiction, is the common boast of scholars. They have little thought, till too late, that life was shortened, and happiness impaired, by every hour taken from the natural period of rest. At West Point this evil is avoided, not so much by force of command, as by that of wise arrange-

ments. At the dawn of day, even in the shortest days, the shrill fife and rolling drum summon the cadet to his morning duties, and with the exception of the hours of meals, there is one incessant pressure upon him for bodily and intellectual labor, till ten at night. The results of this is, that when the hour of retirement comes, he must have more than human strength, who is not ready and willing to lie down and sleep. There are, of course, exceptions; but, at West Point, they are rare. The lights are put out at 10 o'clock, and the weary student is ready to retire. Thus, the system of discipline at the Military Academy at once strengthens the body, stimulates ambition, prevents idleness, and compels the mind to pursue the objects of reason, rather than the charms of imagination.

Having thus traced very briefly the history, studies, and discipline of West Point, it is only just to say something upon the fruits it has produced. These are divided naturally into two classes; the work of the *Professors*, and the performance of *Graduates*. The former is little noticed in the accounts of our colleges, except in the reputation of some distinguished men; but the latter, (the divines, lawyers, and statesmen who have graduated,) make the glory and the ornament of the triennial catalogue. Let us see if something has not been produced by West Point, which, in regard to the peculiar objects and teaching of the Academy, may bear a favorable comparison with the catalogue of any institution for the last half century. We do not mean in regard to the learned professions, for if West Point had excelled in these departments, it would have utterly failed in those for which it was made. But, we mean in the great field of science and of usefulness. First, let us look at some of the fruits produced by its professors, especially in the production of *text-books*. In the history of instruction at West Point, we have stated the total absence in the beginning, of text-books on some subjects, and the unfitness of those on others, even the common studies of Mathematics. The first text-book on Descriptive Geometry, published in America, and we believe, the English language, was prepared by Professor CROZET; but, as he then understood our language imperfectly, and had little taste for authorship, it was soon supplanted, by a complete treatise prepared by Professor DAVIES. On that subject, as on the subject of Engineering, there was no systematic treatise; and for a time, West Point got along by oral teaching, and such collateral aid as could be had. The utter deficiency of suitable books may be known by the fact, that the first really tolerable text-books on mathematics were translations of La Croix, Bourdon, Biot, &c., French authors. The French methods

of writing and teaching science are, on most topics, the best. Their style is clear and analytical. The English treatises are clumsy, being what is called in literature, elliptical, having vacancies in the reasoning, to be supplied by the student. The next great and permanent improvement in books, were the mathematical works of Professor DAVIES, a graduate of 1815, when the Academy was yet in a chrysalis state; he was several years a teacher before he conceived the idea of supplying a new series of mathematical text-books. His first plan was to adopt the best French works as a basis, and modify them, so as to be adapted to the American course of instruction. In this manner were prepared "Davies' Legendre," (Geometry,) and subsequently "Davies' Bourdon," (Algebra.) Other treatises were prepared on his own plan, and thus, for many years, Professor Davies pursued the quiet and laborious task (independent of other avocations,) of preparing an entire course of mathematical text-books. In time he modified these again, so as to fit them for the best colleges, and the higher schools. From the smallest mental arithmetic, to the profoundest treatise on the Calculus, he has produced clear and admirable text-books on every topic of mathematical studies. Many other good books have been prepared by professors in colleges, but there is no part of the United States in which some one of Davies' works are not taught in schools and colleges. Gradually, the civil institutions have been, in some degree, brought up to the standard of West Point, in mathematical studies.

In more recent years, Professor BARTLETT has published his treatise on Optics; Professor CHURCH, on the CALCULUS, and Professor MAHAN, on Field Fortification, and a treatise on Civil Engineering. Various other works on military subjects have been contributed to the stock of knowledge, by graduates of the Academy.*

Thus have the graduates of West Point, by disseminating in text-books, and teaching the higher knowledge, and better methods pursued there, in fact, and beyond dispute, *elevated the entire standard of education in this country.* Contrast, for example, the text-books of Day, Hutton, Enfield, Gregory, &c., which were the only ones to be had on mathematical science in 1818, with those now in use at West Point, New Haven, or Princeton. Contrast the methods of

* The authorship of West Point has been quite extensive; too much so to enumerate here. Among the works of its graduates, we may mention the "Political Manual," "American Education," and Statistical Reports by Edward D. Mansfield, the "Review of Edwards on the Will," by A. T. Bledsoe, and the Military Tactics of Generals McClellan, and Halleck. The Educational Works of Mr. Mansfield have been before the public for many years, and studied in all parts of the United States. In this class also may be mentioned the editorial labors of some twenty of the graduates, some of whom have had no small influence on public affairs.

study before the blackboard, the arts of drawing, the system of rigid demonstration, and of exact scales of merit were introduced, with those now in use in the higher schools of science, and we shall be satisfied that West Point has done a great and most useful work in elevating the standard of education. This is one fruit of its production, which has been altogether too lightly estimated. If it be of importance to increase the number of blades of grass, it is of much more importance to increase the number of minds fitted to enjoy the works of God, and use beneficially the gifts with which he has intrusted them.

A more obvious and commonly remarked fruit of West Point, is the *men*, laboring in their vocations which it has produced. It is impossible here, (though it would be a labor of love,) to note the individual examples of merit and usefulness, among those whom West Point has sent into the service of their country. We are here limited rather to a statement of general results. It may be done briefly; and since we have seen no Register later than 1850, we must deal in round numbers. These, however, will approximate the precise facts. They are there statistically:—

Whole number of Graduates, (about)	2,000.
Killed in battle,	80.
Died in service,	300.
In military service of the United States now,	800.
Have been in political service (ministers, gov- ernors,) mayors, and members of congress, and of legislature,	80.
Other civil and state offices,	100.
Lawyers,	110.
Clergymen, (including two bishops,)	16.
Physicians,	110.
President of colleges, professors and teachers,	100.
Authors, editors, and artists,	25.
Civil engineers, and officers of R. R. and canals,	180.
Merchants, financiers, farmers, and manufac- turers,	140.
Officers of militia, and volunteers, (not of the army,)	110.

Numbers have resigned, and died young, not above enumerated, and numbers of these also have died in the civil service. We have made this classification to show how largely West Point has contributed to education, civil engineering, and the professions. These were not the direct objects of the Academy; but, when long years

of peace presented no duties but that of the garrison, and no glory to the profession of arms, it was natural and proper for active and ambitious young men to seek honor and usefulness in other pursuits. Nor did the government discourage this, for it foresaw what has happened, that these young men, so highly educated in science, would diffuse this knowledge throughout the country; elevate the standard of education, and be ready when their country needed their services. This has happened. A better knowledge of the exact sciences has been carried into the colleges; the railroads and canals have been built by engineers ready furnished by the government; and now when half a million of men have been suddenly called to war, they have been largely officered by the graduates of West Point. Here we may briefly allude to the most grave fact which has been urged against the Military Academy. The best officers of the rebel army were educated there. Why is this? Is there a want of sound morals? or, is loyalty no virtue there? Neither. A part, and a *part only** of the graduates born and grown up in the south, have gone with their friends, families, and connections, into the rebel service. This was on account of social ties, and had no more to do with West Point, than had other rebels from Harvard, or Yale, with those institutions. The noticeable fact is that they were educated at the government expense, and therefore under peculiar obligations to the country. But we find a parallel in the numerous officers of the state, as well as of the army and navy, who had been honored and rewarded at the public expense, but who thought it no shame to betray their country, and conspire against its life. We in vain attempt to account for such crimes, except upon the principle of common depravity, of which history has furnished similar examples in all ages of the world.

We have come to the end of the work we proposed. The rise, progress, and fruits of the Military Academy, we have briefly, and, we trust, justly delineated. Certainly, we have no end to serve, no prejudice to gratify. We knew the Academy in its early and immature period. We have seen it grow up to usefulness and honor. We see its graduates taking their places among those who have well served their country, and well deserved its laurels. In this we are *glad*. But our memory is filled with other images. We see West Point, in the now lengthening shadows of time. We seem to see those with whom we studied freshly present, as they

* We should not forget that a large number of West Point graduates from the south, (Maryland, Virginia, Carolina, and Tennessee,) have remained *loyal*, in spite of all the influences of social and political ties.

walk the green plain, or sit before the class, or strive to teach our dull and inattentive minds. They were men worth remembering, and when, in after times, we became their friends, rather than their pupils, still more pleasant memories gathered around them. We seem to see the venerable **ELLICOTT**, like Goldsmith's schoolmaster, alike full of learning, and of kindly humor; the placid and intellectual expression of **MANSFIELD**, whose abstracted looks seemed to be searching the higher philosophy; the courtly and dignified **THAYER**, whose graceful manners and attractive conversation can not be forgotten by any who knew him; and the amiable **COURTNEY**, who though of later date, will long be remembered. He left the world in doubt, whether he was the better scholar or the better man.*

Of these, and of those like them, do we think, when we think of West Point. Nor of those alone; the place itself, where nature delights in the sublime and beautiful, rises before us. No imagination is necessary to clothe it with the hues of poetry; no books to recall the lost passages of history; no labored eulogy to bring up the memories of the dead. You can no more forget them, than you can the Pilgrims, when standing by the rock of Plymouth. Yon gray and moss-covered ruin was once the fortress of the Revolution. Yon scarcely perceptible pile of stones marks the spot where its soldiers were huddled in the winter. Yon slightly raised turf, beneath the dark shades of the cedar, was his grave, and soon, perhaps even now, that slight memorial will be gone forever. Yon little valley under the shadows of the mountain, recalls the illustrious name of Washington. Yon blue mountain-top tells of the beacon fires he lit. All around are memories; all around are sacred spots. If the Greek remembers Marathon; if the Jew lingers at Jerusalem, or the Christian pilgrim grows warm at Bethlehem, so should the American remember West Point; linger round the ruins of Fort Put, and gaze with delight on the blue summit of Beacon Hill.

* Mr. Courtney was afterwards Professor of Philosophy and Mechanics in the University of Virginia. There he died, lamented by all who knew him.

REGULATIONS

RELATIVE TO

THE ADMISSION OF CADETS INTO THE MILITARY ACADEMY.

APPLICATIONS for admission into the United States Military Academy at West Point, should be made by letter to the Secretary of War. By provision of law, each Congressional and Territorial district, and the District of Columbia, is entitled to have one cadet at the Military Academy, and no more. The district appointments are made on the nomination of the member of Congress representing the district at the date of the appointment. The law requires that the individual selected shall be an actual resident of the Congressional district of the State or Territory, or District of Columbia, from which the appointment purports to be made. Also, appointments "at large," not to exceed ten, are annually made. Application can be made, at any time, by the candidate himself, his parent, guardian, or any of his friends, and the name placed on the register. No preference will be given to applications on account of priority; nor will any application be entered in the register when the candidate is under or above the prescribed age; the *precise age* must be given; *no relaxation of the regulation in this respect will be made*; nor will any application be considered in cases where the age and other qualifications of the candidates are not stated. The fixed abode of the candidate, and *number* of the Congressional district which he considers his permanent residence, must be set forth in the application. The pay of a cadet is \$30 per month, to commence from his admission into the Military Academy, and is considered ample, with proper economy, for his support.

The appointments will be made annually in the month of February or March, on the applications made within the preceding year. The claims of all the candidates on the register will be considered and acted upon. No certain information can be given as to the probable success of the candidate, before the arrival of the period for making the selections. Persons, therefore, making applications, must not expect to receive information on this point.

As a general rule, no person will be appointed who has had a brother educated at the institution.

QUALIFICATIONS.

Candidates must be over sixteen and under twenty-one years of age, at the time of entrance into the Military Academy; must be at least five feet in height, and free from any deformity, disease, or infirmity, which would render them unfit for the military service, and from any disorder of an infectious or immoral character. They must be able to read and write well, and perform with facility and accuracy the various operations of the four ground rules of arithmetic, of reduction, of simple and compound proportion, and of vulgar and decimal fractions.

It must be understood that a full compliance with the above conditions will be insisted on—that is to say—the candidate must write in a fair and legible hand, and without any material mistakes in spelling, such sentences as shall be dictated by the examiners; and he must answer promptly, and without errors,

all their questions in the above-mentioned rules of arithmetic: failing in any of these particulars, he will be rejected.

It must also be understood, that every candidate will, soon after his arrival at West Point, be subjected to a rigid examination by an experienced medical board; and should there be found to exist in him any of the following causes of disqualification, to such a degree as will immediately, or in all probability may at no very distant period, impair his efficiency, he will be rejected:

1. Feeble constitution and muscular tenuity; unsound health from whatever cause; indications of former disease; glandular swellings, or other symptoms of scrofula.
2. Chronic cutaneous affections, especially of the scalp, or any disorder of an infectious character.
3. Severe injuries of the bones of the head; convulsions.
4. Impaired vision from whatever cause; inflammatory affections of the eyelids; immobility or irregularity of the iris; fistula lachrymalis, &c., &c.
5. Deafness; copious discharge from the ears.
6. Loss of many teeth, or teeth generally unsound.
7. Impediment of speech.
8. Want of due capacity of the chest, and any other indication of a liability to a pulmonic disease.
9. Impaired or inadequate efficiency of one or both of the superior extremities on account of fractures, especially of the clavicle, contraction of a joint, extenuation, deformity, &c., &c.
10. An unnatural excurvature or incurvature of the spine.
11. Hernia.
12. A varicose state of the veins, of the scrotum and spermatic cord, (when large,) sarcocele, hydrocele, hemorrhoids, fistulas.
13. Impaired or inadequate efficiency of one or both of the inferior extremities on account of varicose veins, fractures, malformation, (flat feet, &c.,) lameness, contraction, unequal length, bunions, over-lying or supernumerary toes, &c., &c.
14. Ulcers, or unsound cicatrices of ulcers likely to break out afresh.

III. ALDEN PARTRIDGE.

ALDEN PARTRIDGE, Captain in the United States Corps of Engineers, Professor and Superintendent of the Military Academy at West Point, and the Founder of a class of institutions in which the military element is recognized and provided for as an essential part of the training of the American citizen, was born at Norwich in Vermont, on the 12th of January, 1785. His father was a farmer, in independent circumstances, served in the war of the Revolution, and took part in the capture of Burgoyne and his army at Saratoga. He brought up his son in the New England fashion, at such district school as the times and the country afforded in the winter, and at all sorts of work about the house and on the farm at other seasons, until he was sixteen years of age, when, being of studious turn, and fond of reading, he was allowed to fit for college, and entered Dartmouth in August, 1802. We have no knowledge of his studies in college, but it is presumed that his predilections were for the mathematics, and from the lateness with which he commenced his Latin and his subsequent declarations, his aversion was for the languages. Before completing his collegiate course he received the appointment of cadet* in the regiment of artillerists in the United States service, with orders to repair to West Point, and report himself to the commanding officer of the Military Academy at that place.

The Military Academy at the time Cadet Partridge arrived at West Point was very inadequately equipped with the men and material aids of instruction, although the two teachers appointed

* A Cadet in the military organization of the Army denoted a junior officer between the grade of lieutenant and sergeant, and was introduced from the French service. An Act of Congress, passed May 7th, 1794, provided for a Corps of Artillerists and Engineers, to consist of four battalions, to each of which eight cadets were to be attached, and authorized the Secretary of War to procure at the public expense the necessary books, instruments and apparatus for the use and benefit of said corps. In 1798, an additional regiment of Artillerists and Engineers was raised, increasing the number of Cadets to fifty-six. In 1798, the President was authorized to appoint four teachers of the Arts and Sciences necessary to Artillerists and Engineers. No appointment was made till 1801, and in 1802, the Military Academy was established at West Point, where the corps of Engineers was directed to repair with fifty Cadets, and the Senior Officer of the Corps was constituted Superintendent. Col. Williams was then Senior Officer of Engineers, and became, *ex-officio*, Superintendent, and continued such until 1812.

were abundantly capable in their respective departments. Jared Mansfield, especially, the teacher of natural philosophy, had won such reputation in mathematical studies that he received his commission as a captain of engineers from Mr. Jefferson for the very purpose of becoming a teacher at West Point, which he did by appointment in 1802, although in reality he did not perform his duties regularly, and then only for one year, having been, in 1808, appointed by President Jefferson to the responsible post of Surveyor-General of the North-western territory. Such instruction as was given was received by Cadet Partridge in 1806, and in July of that year, he was transferred to the Corps of Engineers, and in October, commissioned as first lieutenant. In November, 1806, he was appointed assistant professor of mathematics, Ferdinand R. Hassler, a little later, having been made Professor in place of Capt. Barron, retired. From Prof. Hassler, he received great help in his mathematical studies, as he afterwards repeatedly acknowledged. In 1808, Prof. Partridge was called to act in place of the Superintendent in the absence of Col. Williams, and continued to do so, with brief intervals, until January, 1815, when he was appointed to the office which he filled till March, 1816. In 1809, Mr. Hassler resigned the professorship of mathematics, and the instruction before given by him devolved on his assistant, Mr. Partridge. In 1810, he succeeded, after repeated applications to the Secretary of War, in obtaining two field pieces, for practical instruction of the Cadets as Artillerists.

In 1812, the Academy was re-organized, and was made to consist of the Corps of Engineers and the following Professors, in addition to the teachers of the French language and drawing, viz.: "one professor of natural and experimental philosophy; one professor of mathematics; and one professor of the art of engineering; each professor to have an assistant taken from the most prominent of the Officers or Cadets." The number of Cadets was increased to two hundred and fifty, and were directed to be arranged into companies of non-commissioned officers and privates, according to the directions of the commandant of Engineers, and be officered from that corps, "for the purposes of military instruction, in all the duties of a private, non-commissioned officer, and officer, and to be encamped at least three months of each year, and taught all the duties incident to a regular camp." The age of admission was fixed, the minimum at fourteen, and maximum at twenty-one, and preliminary knowledge to be well versed in reading, writing, and arithmetic. It was further provided that any Cadet who shall receive a regular degree from the Academical Staff, after going through all the classes,

shall be considered among the candidates for a commission in any corps, according to the duties he may be judged competent to perform. The sum of \$25,000 was appropriated towards the buildings, library, implements, &c. On this broad basis the Academy was progressively enlarged to its present capabilities of usefulness.

Under the new arrangement of 1812, Mr. Partridge was appointed professor of mathematics, with the pay and emoluments of a major, which appointment was soon after, at the request of the Secretary of War, exchanged for that of professor of engineering, it being found more difficult to fill the latter post than the former. The duties of this professorship he continued to discharge from September 1, 1813, till December 31, 1816.

In 1808, Capt. Partridge was ordered by Col. Williams to take charge of the internal direction and control of the Military Academy as Superintendent, which duties he discharged until January 3, 1815, when, by regulations of that date, he was made the permanent Superintendent, which post he held till November 25th, 1816, and was finally relieved on the 13th of January, 1817.

By the regulation of January 3, 1815, the commandant of the Corps of Engineers was constituted *Inspector* of the Academy, and made responsible for instruction, and to report to the Department of War. Out of this appointment, and the instructions relating thereto, grew a difference of opinion, which resulted in the final withdrawal of Capt. Partridge from the institution, the resignation of his commission in the military service of the United States, and his subsequent devotion to the dissemination by lectures and personal efforts of the views which he had formed of the education required by the American citizen, and the establishment of institutions in which these views could be carried out.

After resigning his commission in the military service of the United States, Capt. Partridge was engaged, in the summer of 1818, as military instructor to a volunteer corps, and in giving a course of lectures on fortifications and other branches of military science to a class of officers and citizens in the city of New York. The views which he then presented on the best means of national defense were in advance of the "piping times of peace" in 1818, but have been since demanded to be eminently sound and practical by the terrible experience of 1861—1862.

His chief reliance for national defense was in the *military habits* of the great body of the American people—organized into suitable militia departments corresponding in the main to the limits of the several states, officered by men of the right capacity, scientific

education, and military training. The officers were required to assemble annually at stated periods, either in camps or rendezvous, at some central point in the department, to receive instruction from a few competent teachers of the military art. We give the plan in his own language as published at the time.

I. Let the United States be divided into military departments, say thirty in number; each of those departments to be wholly comprised within the same state, whenever this can be done.

II. To each of those departments let there be attached a military instructor, (under the authority of the United States,) who should receive the pay and emoluments of a colonel of infantry, and have the brevet-rank of a brigadier-general. These instructors to be gentlemen of established character and reputation, and who have received a regular scientific military education.

III. Let the officers of each brigade of militia in the United States be required to assemble annually at stated periods, either in camp or rendezvous, at some central point in the brigade, there to remain six days, for the purpose of military instruction. Let each instructor attend in succession at the several camps or places of rendezvous in his department, and devote himself assiduously to the instruction of the officers there assembled. One portion of the day might be devoted to practical drills, and field evolutions—also to the turning off, mounting, and relieving guards and sentinels, while the remainder could be most usefully employed in explaining and illustrating the principles of tactics generally, of artillery, of permanent and field fortification, the duties of troops in camp and in garrison, and such other branches as time and circumstances might permit, by means of familiar explanatory lectures.

IV. Let each officer receive from the government a reasonable allowance for his expenses while attending the instruction, and also while going to, and returning from, the camp or rendezvous.

Some of the principal advantages that would result from the adoption of the foregoing plan, I conceive would be as follows, viz. :—

1. The same system of tactics and discipline would pervade the whole mass of the militia—the instructors being imperatively required to adhere to one system. This would be a very important advantage.

2. By this means the country, in the course of a few years, would be furnished with a well organized military force, of at least one million of men, composed of the best materials in the world for soldiers; the whole of which, the officers having been regularly and correctly instructed, might be rendered, in the course of a few weeks, after being called into service, perfectly competent to the efficient discharge of all the duties of the field. This assertion is not founded upon conjecture. An experience of nearly fifteen years in military instruction, has convinced me, that any of our regiments of militia, in their present state of discipline, if brought into the field and placed under competent officers, could, by three weeks instruction, be prepared for discharging all the duties of regular troops. The instruction, then, in time of peace, of the officers, becomes an object of great importance;—that of the privates is of secondary consideration. There is no difficulty in making soldiers, when officers understand their duty, and are disposed to perform it.

It may perhaps be objected to the foregoing plan, that the time proposed for the officers to remain in camp or rendezvous, is too limited to admit of their deriving much advantage therefrom. In answer to this I will observe, that a due share of experience in this species of instruction, has fully convinced me, that they would acquire more correct military information in six days, under a competent and systematic instructor, than they usually acquire under the present system, during the whole period from eighteen to forty-five years of age; and that, after attending two or three similar courses, the great body of them would be perfectly competent to the correct, efficient, and useful discharge of all the duties of the field. From the best calculation I have been able to make,

I feel confident, that the whole necessary expense of carrying this plan into full and effective operation, would not exceed six hundred thousand dollars—it would probably fall short of that sum. Whether the expense, then, is to be considered as disproportionate to the object in view, and therefore to constitute a barrier to its accomplishment, must be decided by the sound discretion of the representatives of the people. It appears to me, however, to bear no greater ratio to it, than does a grain of sand to the globe we inhabit. The cultivation of military science must also be viewed as of the first importance in a system of military defense for our country. The plan already detailed, is calculated for the general dissemination of practical military information throughout the community, but is not adapted to the investigation of principles. This can only be done at seminaries, where it constitutes a branch of regular attention and study; and where theory and practice can, in due proportion, be combined. At those seminaries would be formed our military instructors, our engineers, and our generals; and from those, as from so many foci, would all the improvements in the military art be diffused throughout the country.

In the lectures delivered in 1818, Capt. Partridge, in view of the inevitable disintegration by frost and moisture, and the improvements in the science of attack, anticipated the insufficiency of permanent fortifications—of works of masonry, no matter how expensively or strongly constructed—to the defense of our principal harbors against the attacks of a foreign foe; his reliance was on the general diffusion of military science and training amongst the militia, on an efficient navy, and the following plan of marine defense.

I. At the most important and exposed points on our seaboard, let one or two principal works of the most permanent kind be erected: these works to be kept in perfect repair, to be plentifully supplied with all the munitions of war, and the guns and carriages well secured from the weather by means of pent houses.

II. In the vicinity of all the most exposed and vulnerable points on the seaboard, let spacious and permanent arsenals be constructed, in which, let there be deposited ample supplies of cannon, mortars, gun carriages, materials for platforms, and other munitions of war, where they would remain perfectly safe from the weather.

III. In case of war or threatened invasion, let temporary works, either of earth, or of wood, be constructed at all the most vulnerable points, which could be readily furnished with cannon, gun carriages, platforms, and all the necessary implements and munitions from the arsenals in their vicinity.

IV. As soon as peace is restored, these works should be dismantled, and all their apparatus returned to the arsenals from whence it was taken. In case of future emergencies, they could be restored, or others of the same description, constructed in their places, which could be supplied from the arsenals in the manner above stated. The efficacy in marine defense, of works of the above description, I presume will not be doubted by any scientific military man. Should any one, however, be disposed to doubt it, I would beg leave to refer him to the defense of Fort Moultrie, in the harbor of Charleston, South Carolina, when attacked by the British shipping, during the Revolutionary war, and also to the defense made by the small fort at Stonington, Connecticut, when attacked in a similar manner during the last war.

By adopting this system, I think the following advantages would result:—

1. A more secure defense would be obtained. By knowing the description of force we had to encounter, we should be enabled to construct our temporary works in a manner the best calculated to repel it; and as the gun carriages, platforms, and implements, when taken from the arsenals, would be sound and in perfect order, we might reasonably calculate these works would make a more

vigorous resistance than permanent ones, which, with their apparatus, are in a state of partial dilapidation and decay.

2. The system would be much less expensive than the one by permanent fortification. Those temporary works could ordinarily be constructed by the troops with very little, if any, additional expense; but in case of pressing emergency, the zeal and patriotism of the people might be relied upon with safety, to supply any amount of labor that might be necessary, as was the case at New York in 1814. As it is not proposed they should be retained as military stations in time of peace, the expense of keeping them in repair would be nothing.

In the early part of 1819, Capt. Partridge was engaged in the exploring survey of the North Eastern boundary, under the fifth article of the treaty of Ghent. While on this survey he determined from barometrical and thermometrical observations of the altitudes of the Highlands dividing the rivers which flow northerly into the St. Lawrence, from those which flow southerly into the Atlantic ocean; he also made a profile of the country between several points on the St. Lawrence, and corresponding position in the state of Maine.

In 1820, Capt. Partridge resigned his position in this survey, for the purpose of carrying into practical effect a plan of education, which had occupied much of his attention since 1810, and which in its main features was, doubtless, suggested by his experience at Hanover, and West Point, and was calculated to supply certain deficiencies which he and others had already noticed in our American colleges and higher seminaries of learning. His views both of the deficiencies and their remedies were set forth in a lecture delivered at this time, which was subsequently printed. After defining "education in its most perfect state to be the preparing a youth in the best possible manner for the correct discharge of the duties of any station in which he may be placed," in this lecture he proceeds to characterize the existing plan of instruction.

1. It is not sufficiently practical, nor properly adapted to the various duties an American citizen may be called upon to discharge. Those of our youth who are destined for a liberal education, as it is called, are usually put, at an early age, to the study of the Latin and Greek languages, combining therewith a very slight attention to their own language, the elements of arithmetic, &c.; and after having devoted several years in this way, they are prepared to become members of a college or university.

Here they spend four years for the purpose of acquiring a knowledge of the higher branches of learning; after which, they receive their diplomas, and are supposed to be prepared to enter on the duties of active life. But, I would ask, is this actually the case? Are they prepared in the best possible manner to discharge correctly the duties of any station in which fortune or inclination may place them? Have they been instructed in the science of government generally, and more especially in the principles of our excellent Constitution, and thereby prepared to sit in the legislative councils of the nation? Has their attention been sufficiently directed to those great and important branches of national industry and sources of national wealth—agriculture, commerce, and

manufactures? Have they been taught to examine the policy of other nations, and the effect of that policy on the prosperity of their own country? Are they prepared to discharge the duties of civil or military engineers, or to endure fatigue, or to become the defenders of their country's rights, and the avengers of her wrongs, either in the ranks or at the head of her armies? It appears to me not; and if not, then, agreeably to the standard established, their education is so far defective.

2. Another defect in the present system, is, the entire neglect, in all our principal seminaries, of physical education, or the due cultivation and improvement of the physical powers of the students.

The great importance and even absolute necessity of a regular and systematic course of exercise for the preservation of health, and confirming and rendering vigorous the constitution, I presume, must be evident to the most superficial observer. It is for want of this, that so many of our most promising youths lose their health by the time they are prepared to enter on the grand theatre of active and useful life, and either prematurely die, or linger out a comparatively useless and miserable existence. That the health of the closest applicant may be preserved, when he is subjected to a regular and systematic course of exercises, I know, from practical experience; and I have no hesitation in asserting, that in nine cases out of ten, it is just as easy for a youth, however hard he may study, to attain the age of manhood, with a firm and vigorous constitution, capable of enduring exposure, hunger and fatigue, as it is to grow up puny and debilitated, incapable of either bodily or mental exertion.

3. A third defect in our system is, the amount of idle time allowed the students; that portion of the day during which they are actually engaged in study and recitations, under the eye of their instructors, comprises but a small portion of the whole; during the remainder, those that are disposed to study, will improve at their rooms, while those who are not so disposed, will not only not improve, but will be very likely to engage in practices injurious to their constitutions and destructive to their morals. If this vacant time could be employed in duties and exercises, which, while they amuse and improve the mind, would at the same time invigorate the body and confirm the constitution, it would certainly be a great point gained. That this may be done, I shall attempt in the course of these observations, to show.

4. A fourth defect is, the allowing to students, especially to those of the wealthier class, too much money, thereby inducing habits of dissipation and extravagance, highly injurious to themselves, and also to the seminaries of which they are members. I have no hesitation in asserting, that far the greater portion of the irregularities and disorderly proceedings amongst the students of our seminaries, may be traced to this fatal cause. Collect together at any seminary, a large number of youths, of the ages they generally are at our institutions, furnish them with money, and allow them a portion of idle time, and it may be viewed as a miracle, if a large portion of them do not become corrupt in morals, and instead of going forth into the world to become ornaments in society, they rather are prepared to become nuisances to the same. There is in this respect, an immense responsibility resting on parents and guardians, as well as on all others having the care and instruction of youth, of which it appears to me they are not sufficiently aware.

When youths are sent to a seminary, it is presumed they are sent for the purpose of learning something that is useful, and not to acquire bad habits, or to spend money; they should consequently be furnished with every thing necessary for their comfort, convenience and improvement, but money should in no instance be put into their hands. So certainly as they have it, just so certainly will they spend it, and this will, in nine cases out of ten, be done in a manner seriously to injure them, without any corresponding advantage. It frequently draws them into vicious and dissolute company, and induces habits of immorality and vice, which ultimately prove their ruin. The over-weening indulgence of parents, has been the cause of the destruction of the morals and future usefulness of many a promising youth. They may eventually discover their error, but alas, it is often too late to correct it. Much better does that person discharge the duties of a real friend to the thoughtless, unwary youth, who withholds from him the means of indulging in dissipated and vicious courses.

5. A fifth defect is the requiring all the students to pursue the same course of studies.

All youth have not the same inclinations, nor the same capacities; one may possess a particular inclination and capacity for the study of the classics, but not for the mathematics and other branches of science; with another it may be the reverse. Now it will be in vain to attempt making a mathematician of the former, or a linguist of the latter. Consequently, all the time that is devoted in this manner, will be lost, or something worse than lost. Every youth, who has any capacity or inclination for the acquirement of knowledge, will have some favorite studies, in which he will be likely to excel. It is certainly then much better that he should be permitted to pursue those, than, that by being forced to attend to others for which he has an aversion, and in which he will never excel, or ever make common proficiency, he should finally acquire a dislike to all study. The celebrated Pascal, is a striking instance of the absurdity and folly of attempting to force a youth to attend to branches of study, for which he has an utter aversion, to the exclusion of those for which he may possess a particular attachment. Had the father of this eminent man persisted in his absurd and foolish course, France would never have seen him, what he subsequently became, one of her brightest ornaments.

6. A sixth defect is the prescribing the length of time for completing, as it is termed, a course of education. By these means, the good scholar is placed nearly on a level with the sluggard, for whatever may be his exertions, he can gain nothing in respect to time, and the latter has, in consequence of this, less stimulus for exertion. If any thing will induce the indolent student to exert himself, it is the desire to prevent others getting ahead of him. It would be much better to allow each one to progress as rapidly as possible, with a thorough understanding of the subject.

Having stated what appeared to him the most prominent defects in the academies and colleges as organized and conducted, he next proceeds to point out the remedies.

1. The organization and discipline should be strictly military.

Under a military system, subordination and discipline are much more easily preserved than under any other. Whenever a youth can be impressed with the true principles and feelings of a soldier, he becomes, as a matter of course, subordinate, honorable, and manly. He disdains subterfuge and prevarication, and all that low cunning, which is but too prevalent. He acts not the part of the assassin, but if he have an enemy, he meets him openly and fairly. Others may boast that they have broken the laws and regulations of the institution of which they are, or have been members, and have escaped detection and punishment, by mean prevarication and falsehood. Not so the real soldier. If he have broken orders and regulations, he will openly acknowledge his error, and reform; but will not boast of having been insubordinate. Those principles, if imbibed and fixed in early youth, will continue to influence his conduct and actions during life; he will be equally observant of the laws of his country, as of the academic regulations under which he has lived; and will become the more estimable citizen in consequence thereof. I shall not pretend, however, that all who wear a military garb, or live, for a time, even under a correct system of military discipline, will be influenced in their conduct by the principles above stated; but if they are not, it only proves that they have previously imbibed erroneous principles, which have become too firmly fixed to be eradicated; or that nature has not formed them with minds capable of soaring above what is low and groveling.

2. Military science and instruction should constitute a part of the course of education.

The constitution of the United States has invested the military defense of the country in the great body of the people. By the wise provisions of this instrument, and of the laws made in pursuance thereof, every American citizen, from eighteen to forty-five years of age, unless specially exempted by law, is liable

to be called upon for the discharge of military duty—he is emphatically a citizen soldier, and it appears to me perfectly proper that he should be equally prepared by education to discharge, correctly, his duties in either capacity. If we intend to avoid a standing army, (that bane of a republic, and engine of oppression in the hands of despots,) our militia must be patronized and improved, and military information must be disseminated amongst the great mass of the people; when deposited with them, it is in safe hands, and will never be exhibited in practice, except in opposition to the enemies of the country. I am well aware there are amongst us many worthy individuals, who deem the cultivation of military science a sort of heresy, flattering themselves, and endeavoring to induce others to believe, that the time has now arrived, or is very near, when wars are to cease, and universal harmony prevail amongst mankind. But, my fellow-citizens, be not deceived by the syren song of peace, peace, when, in reality, there is no peace, except in a due and constant preparation for war. If we turn our attention to Europe, what do we behold? A league of crowned despots, impiously called holy, wielding a tremendous military force of two millions of mercenaries! Ill-fated Naples, and more ill-fated Spain, have both felt the effects of their *peaceable* dispositions, and were it not for the wide-spreading Atlantic, which the God of nature in his infinite goodness has interposed between us, we also, ere this, should have had a like experience. The principles of liberty are equally obnoxious to them, whether found in Europe, Asia, Africa, or America. If rendering mankind ignorant of the art of war, (as a science,) would prevent wars, then would I unite most cordially with those, usually termed peace-men, for the purpose of destroying every vestige of it. But such, I am confident, would not be the result. Wars amongst nations do not arise because they understand how to conduct them skillfully and on scientific principles; but are induced by the evil propensities and dispositions of mankind. To prevent the effect, the cause must be removed. We may render nations ignorant of the use of the musket and bayonet; we may carry them back, as respects the art of war, to a state of barbarism, or even of savagism, and still wars will exist. So long as mankind possess the dispositions which they now possess, and which they ever have possessed, so long they will fight. To prevent wars, then, the disposition must be changed; no remedy short of this, will be effectual. In proportion as nations are rude and unskilled in the art of war, will their military code be barbarous and unrelenting, their battles sanguinary, and their whole system of warfare, destructive. War, therefore, in such a case, becomes a far greater evil, than it does under an improved and refined system, where battles are won more by skill than by hard fighting, and the laws of war are proportionally ameliorated. What rational man, what friend of mankind, would be willing to exchange the present humane and refined system of warfare, for that practiced by an Attila, a Jenghis Khan, a Tamerlane, or a Mahomet, when hundreds of thousands fell in a single engagement, and when conquest and extermination were synonymous terms. On the principles of humanity, then, it appears to me that, so long as wars do exist, the military art should be improved and refined as much as possible; for, in proportion as this is done, battles will be less sanguinary and destructive, the whole system more humane, and war itself a far less evil. But independent of any connection with the profession of arms, or of any of the foregoing considerations, I consider a scientific knowledge of the military art, as constituting a very important part of the education of every individual engaged in the pursuit of useful knowledge, and this for many reasons; viz. :—

First. It is of great use in the reading of history, both ancient and modern.

A large portion of history is made up of accounts of military operations, descriptions of battles, sieges, &c. Now, I would ask, is the reader to understand this part, if he be ignorant of the organization of armies, of the various systems of military tactics, of the science of fortification, and of the attack and defense of fortified places, both in ancient and modern times? Without such knowledge it is evident he derives, comparatively but little information from a large portion of what he reads.

Second. It is of great importance in the writing of history. I presume it will not be denied, that in order to write well on any subject, it must be under-

stood. How, then, can the historian give a correct and intelligible account of a campaign, battle, or siege, who is not only unacquainted with the principles on which military operations are conducted, but is also ignorant of the technical language necessary for communicating his ideas intelligibly on the subject? This is the principal reason why, as it appears to me, the ancient historians were so much superior to the modern. Many of their best historical writers were military men. Some of them accomplished commanders. The account of military operations by such writers as Xenophon, Thucydides, Polybius and Caesar, are perfectly clear and intelligible, whereas when attempted by the great body of modern historians, the most we can learn is, that a fortress was besieged and taken, or that a battle was fought and a victory won, but are left in entire ignorance of the principles on which the operations were conducted, or of the reasons why the results were as they were.

Third. It is essentially necessary for the legislator.

The military defense of our country is doubtless one of the most important trusts which is vested by the constitution in the general government, and it is a well known fact, that more money is drawn from the people and disbursed in the military, than in any other department of the government. Now as all must be done under the sanction of the law, I would beg leave to inquire, whether it be not of the greatest importance, that those who are to make such laws should be in every respect well prepared to legislate understandingly on the subject? That there has been, and still is, a want of information on this subject amongst the great body of the members of Congress, I think will be perfectly evident to any one who is competent, and will take the trouble to examine our military legislation since the conclusion of the Revolutionary war. I feel little hesitation in asserting, that from want of this information, more than from any other cause, as much money has been uselessly expended in our military department alone, as would cancel a large portion of the national debt.

Fourth. It is of great use to the traveler.

Suppose a young man, with the best education he can obtain at any of our colleges or universities, were to visit Europe, where the military constitutes the first class of the community, and where the fortifications constitute the most important appendages to nearly all the principal cities, how much does he observe, which he does not understand? If he attempt a description of the cities, he finds himself embarrassed for want of a knowledge of fortification. If he attempt an investigation of the principles and organization of their institutions, or of their governments, he finds the military so interwoven with them all, that they can not be thoroughly understood without it. In fine, he will return with far less information, than with the aid of a military education he might have derived. As it respects the military exercises, I would observe, that were they of no other use than in preserving the health of students, and confirming in them a good figure and manliness of deportment, I should consider these were ample reasons for introducing them into our seminaries generally; they are better calculated than any others for counteracting the natural habits of students, and can always be attended to, at such times as would otherwise be spent in idleness or useless amusements. Having expressed my views thus fully on this subject, I will next proceed to state more specifically the other branches which I would propose to introduce into a complete course of education: and—

1. The course of classical and scientific instruction should be as extensive and perfect as at our most approved institutions. The students should be earnestly enjoined and required to derive as much of useful information from the most approved authors, as their time and circumstances would permit.

2. A due portion of time should be devoted to practical geometrical and other scientific operations in the field. The pupils should frequently be taken on pedestrian excursions into the country, be habituated to endure fatigue, to climb mountains, and to determine their altitudes by means of the barometer as well as by trigonometry. Those excursions, while they would learn them to walk, (which I estimate an important part of education,) and render them vigorous and healthy, would also prepare them for becoming men of practical science generally, and would further confer on them a correct *coup d'œil* so essentially

necessary for military and civil engineers, for surveyors, for travelers, &c., and which can never be acquired otherwise than by practice.

3. Another portion of their time should be devoted to practical agricultural pursuits, gardening, &c.

In a country like ours, which is emphatically agricultural, I presume it will not be doubted, that a practical scientific knowledge of agriculture would constitute an important appendage to the education of every American citizen. Indeed the most certain mode of improving the agriculture of the country will be to make it a branch of elementary education. By these means, it will not only be improved, but also a knowledge of their improvements generally disseminated amongst the great mass of the people.

4. A further portion of time should be devoted to attending familiar explanatory lectures on the various branches of military science, on the principles and practice of agriculture, commerce and manufactures, on political economy, on the constitution of the United States, and those of the individual states, in which should be pointed out particularly the powers and duties of the general government, and the existing relations between that and the state governments, on the science of government generally. In fine, on all those branches of knowledge which are necessary to enable them to discharge, in the best possible manner, the duties they owe to themselves, to their fellow men, and to their country.

5. To the institution should be attached a range of mechanics' shops, where those who possess an aptitude and inclination might occasionally employ a leisure hour in learning the use of tools and acquiring a knowledge of some useful mechanic art.

The division of time, each day, I would make as follows, viz. :—

Eight hours to be devoted to study and recitation; eight hours allowed for sleep. Three hours for the regular meals, and such other necessary personal duties as the student may require. Two hours for the military and other exercises, fencing, &c. The remaining three hours to be devoted, in due proportion, to practical agricultural and scientific pursuits and duties, and in attending lectures on the various subjects before mentioned.

Some of the most prominent advantages of the foregoing plan would, in my opinion, be the following; viz. :—

1. The student would, in the time usually devoted to the acquirement of elementary education, (say six years) acquire, at least, as much, and I think I may venture to say more, of book knowledge, than he would under the present system.

2. In addition to this, he would go into the world an accomplished soldier, a scientific and practical agriculturist, an expert mechanician, an intelligent merchant, a political economist, legislator and statesman. In fine, he could hardly be placed in any situation, the duties of which he would not be prepared to discharge with honor to himself and advantage to his fellow-citizens and his country.

3. In addition to the foregoing, he would grow up with habits of industry, economy and morality, and, what is of little less importance, a firm and vigorous constitution; with a head to conceive and an arm to execute—he would emphatically possess a sound mind in a sound body.

After much correspondence Capt. Partridge decided to carry out his principles of education in an institution organized on his own plan and conducted by himself, with such assistance as he could command, in his native village of Norwich, Vermont. Here he opened, on the 4th of September, 1820, the American Literary, Scientific and Military Academy, on which the pupils or their parents had their choice of studies, out of a course as extensive as that of any academy and college in New England combined—in which

military training formed a prominent feature, and the mathematics, especially as applied to surveying and engineering, received special attention. During the four years and half of its continuance in Norwich the Academy was attended by 480 pupils, representing twenty-one out of the twenty-four states, and of these, and especially of such as continued on an average two years at the institution, a large proportion became distinguished in military, public, and business life—as large it is believed as the records of any other institution for the same period of time can show. Its success demonstrated beyond cavil, that military exercises and duties are not inconsistent with ardent devotion, and the highest attainments in literary and scientific studies.

In 1824, the citizens of Middletown, Connecticut, made a liberal subscription to secure the location there, of a college about to be established in that State, under Episcopal auspices. Failing in that object, by the location of the institution at Hartford, where it now exists under the name of Trinity College, they invited Capt. Partridge to remove his Academy to their city, and offered to erect and place at his disposal suitable buildings for his accommodation. This invitation and offer were accepted, and on the 1st of April, 1825, he closed his institution at Norwich, and on the 1st of September following, opened his new course of instruction at Middletown, with an attendance of two hundred and ninety-seven pupils in the first year. During the three years—up to September 1828, the American Literary, Scientific, and Military Academy at Middletown remained under his superintendence, there were nearly twelve hundred pupils representing every State and Territory of the United States, the British Provinces, Mexico, several of the South American States, and the West Indies. This attendance shows conclusively, that the military and scientific element, together with an optional course of study, and a term of residence limited by the ability of the pupil to complete the course, met a want not provided for in existing colleges. Of those who completed the full course of study begun at Norwich, as large a proportion, as the corresponding graduates of any American college, attained a high degree of usefulness and eminence in widely diversified fields of labor. Among its graduates are to be found the founders or professors of several State Military Institutes, many officers of the highest rank in the military service of the United States, several eminent civil engineers, superintendents, of railroads, members of Congress, lawyers, and men of practical efficiency and success in every line of business.

One of the characteristic features of Captain Partridge's system

of instruction and discipline at Middletown, was the military marches and pedestrian excursions for scientific and recreating purposes conducted under his personal command, or in his company. Several of these excursions occupied three or four weeks, extending in one instance to Washington. The military marches amounted in the aggregate to over two thousand miles, and these and the various pedestrian excursions, included visits to nearly all points of military and historical interest in New England and New York. The immediate and controlling reasons which induced Capt. Partridge to leave Middletown, are not known to the writer of this memoir. He has however, understood it was owing partly to a desire for temporary relief from the cares and confinement of immediate superintendence, that he might start a similar institution in the neighborhood of New York, and partly from disgust at the refusal of the Legislature of Connecticut in 1828, to grant to the institution at Middletown, the usual privileges and powers of a college.

In 1833, 1834, 1837, and 1839, Capt. Partridge was elected representative from the town of Norwich, to the Legislature of Vermont, and in that capacity labored to give efficiency to the military system of the State. In 1834, he secured for certain petitioners a charter for the Norwich University, in which the Trustees are required "to provide for a constant course of instruction in military science and civil engineering," and are "prohibited from establishing any regulations of a sectarian character, either in religion or politics." Of this corporation, consisting of twenty-five trustees, Capt. Partridge was a member, and in organizing the institution in 1825, he was elected president of the Faculty. He continued to instruct in his own department of military science and engineering, and administered the affairs of the university till 1844, when owing to some difficulties arising out of the use of the building, arms, and accoutrements, which were his private property, he resigned.

In 1838, he was influential in calling together a convention of military officers and persons interested in giving greater efficiency to the organization of the militia of the several states, to meet for consultation. This convention met at Norwich on the 4th of July; and continued to meet annually for many years, to discuss plans for the organization and discipline of the militia, for the dissemination of a knowledge of military science, for the defense of the coast, &c. Many reports of this body were drawn up by him, and the proceedings were forwarded to, and printed by order of the Congress of the United States.

In 1839, on the request of many influential citizens, he visited

Portsmouth, Virginia, to establish a Military School, which he did, and which was soon after recognized by the Legislature of the State as the Virginia Literary, Scientific, and Military Institute, and aided by an appropriation out of the Literary Fund. This Institute, with an Institute of a similar character at Lexington, in the western part of the State, has been greatly instrumental in diffusing widely in Virginia a knowledge and taste for military affairs. The success of this institution, and the personal influence of many of his own scholars at Norwich and Middletown, led to the establishment of similar schools in other southern states.

In May, 1842, Capt. Partridge accepted the position of Camp Instructor for a large body of officers and men of the Pennsylvania volunteer militia in encampment at Reading, Berks County. Each evening he delivered a lecture to officers assembled in the General's marquee, and during the day exercised the troops in the manual of arms, and in company, regimental, and brigade movements in the field. On this, and many similar occasions, he demonstrated the correctness and practicability of his theory of national defense, so far as testing the qualifications of officers for command, and giving accuracy, rapidity, and steadiness of exercise and movements to troops, by assembling officers and men of the State Militia, once or twice in the year, in convenient numbers and places, under instructors properly qualified for the work. A few instructors, themselves trained in the best military institutions, and familiar with every improvement in military organization, equipment, and movement, and especially when clothed with the reputation of success in actual service, would soon bring the entire militia of the states into a uniform system, and give respectability and efficiency to this department of the public service. This result would be more speedily realized if a number of educational institutions similar to those which he had organized under many disadvantages and against many prejudices, could call out and cultivate military taste and accomplishments among a portion of the young men of each state.

In 1853, he opened at Brandywine Springs, near Wilmington, in the State of Delaware, another institution in which he fondly hoped his ideal of a National school of education would be realized—an institution in which physical training in connection with military exercises and movements, should accompany the acquisition of practical knowledge of the great principles of science that underlie all the arts of peace and war, and resorted to by students from every state of the American Union. His plan as developed in conversation with those directly interested, embraced his old ideas of scien-

tific, and literary studies with systematic pedestrian excursions,* and marches in vacations to the great objects of natural, economical, and historical interest in different parts of the country. In this latter particular, he unconsciously applied the suggestion of Milton in his letter to Samuel Hartlib, that "the students of his Academy should go out in companies with prudent and staid guides to all quarters of the land, learning and observing all places of strength, and all commodities (facilities) of building and of soil, for towns and tillage, harbors and ports of trade,—even sometimes taking sea as far as to our navy to learn there also, what they can in the practical knowledge of sailing and sea-fight." Arrangements were made for a class of ten or twelve of the most advanced and matured cadets to accompany him to Europe to study the strategy of the great battles of the world, and the armies, armories, and resources of the great nations of Europe—thus again realizing Milton's plan of gratifying "the desire of the more hopeful youth" "to see other countries at three or four and twenty years of age, not to learn principles, but to enlarge experience and make wise observation." But these hopes were darkened for a time by a great disaster, and soon extinguished in the sudden death of the great projector. In the autumn of 1853, the buildings at Brandywine Springs, were consumed by fire, and although arrangements were at once made to secure suitable accommodations at Bristol, Pennsylvania, and upwards of one hundred pupils enrolled their names to attend for a year at that place, still the great motive power of the enterprise was stricken down.

At the close of the year, 1853, Capt. Partridge returned to Norwich, where his family still resided, in apparently good health and the best spirits. A few days after he reached home, he was attacked by sharp and excruciating pains in his back, which were soon subdued by anodynes, but from the prostration and the cause, which proved on a post-mortem examination to be an aneurism near the base of the spine, and which had been exhausting his vitality for years—he never rallied, and on the 17th of January, 1854, he breathed his last—widely and deeply mourned by troops of friends, who loved and admired him as their teacher, or looked up to him as the best expounder of principles of military science and education, and of national defense.

* Captain Partridge attached much importance to pedestrian excursions in reference both to hygienic, and educational considerations. To these excursions he attributed his own robust health, and his familiar knowledge of all the details of American battles. In one year, (1830,) he made four excursions from Norwich, each occupying from four to six days—and from one hundred and fifty to four hundred miles—the last day's walk generally averaging over sixty miles. He had ascended and measured the altitude of all the highest mountain elevations in the Northern States.

Although living most of his life in the discharge of educational and public duties, under circumstances inconsistent with "a local habitation," he had strong domestic tastes and attachments, and was a genial companion in his own room and home. In 1837, he married Miss Swazey, the daughter of a merchant in Claremont, New Hampshire, and to this happy union were born two children. The oldest boy, George, was educated by the father on his own system, and had displayed vigorous health, and strong partialities and attainments in mathematical studies and their applications; but he survived his father only a few months—"long desolate months they were to the widow and children"—and the tenement of that bright intellect was laid by the side of that of his hardy and indefatigable father in the little village burying-ground. The other son Henry, as he grew up, showed a partiality for the profession of law, and was pursuing his studies in Warren, Penn., when the call of the President of the United States for volunteers, summoned him to the defense of the flag of the country. He enlisted for the war, and was promoted to a captaincy in a Pennsylvania regiment, which was attached to the army of the Potomac, whose varying fortunes he shared till, greatly weakened by exposure and disease, he was honorably discharged from the service. His superior officer in writing to his mother, says: "He is in every respect a model officer. How could he be otherwise? He has it all by right of inheritance, and I fully appreciate that you have made a very great contribution to the government and the country in sending him forth to fight the battles which have been forced upon us."

NOTE.

[We are disappointed in not being able to close this article with a sketch of the character of Captain Partridge by one who was his pupil, and enjoyed his fullest confidence, and holds in high esteem his educational and military views. We hope to introduce it, with the Portrait promised in the Contents of this, in a subsequent number of this volume.—Editor "*American Journal of Education*."]]

IV. AMERICAN LITERARY, SCIENTIFIC, AND MILITARY ACADEMY.

AT NORWICH, VERMONT.

THE AMERICAN LITERARY, SCIENTIFIC, AND MILITARY ACADEMY, at Norwich, Vermont, was opened on the 4th of September, 1820, by Capt. Alden Partridge, and continued under his personal superintendence and instruction, assisted by several professors, until April 1st, 1825, when it was discontinued at Norwich, and reopened at Middletown, Connecticut. The catalogue of the officers and cadets published August, 1821, contains a prospectus from which we make extracts to exhibit the aims of that school and of this particular class of institutions at that date.

TERMS OF ADMISSION.

The requisite qualifications for becoming members of the Institution are the following, viz: That the candidate be of good moral character, that he be able to read and spell correctly, to write a fair, legible hand, and work the ground rules of arithmetic.

COURSE OF INSTRUCTION.

Young gentlemen destined for a college education, can be prepared at this seminary for admission into any college or university in the country, either as freshmen, or one or two years in advance, and in the mean time will be enabled to acquire a good military and practical scientific education. Young gentlemen also, destined for the navy, can here be instructed in the scientific part of their profession, and at the same time, obtain a correct knowledge of fortification, and of military operations generally, on land, which it is believed they would find highly useful in future life. Parents and guardians who are desirous of placing their sons or wards at this seminary, are requested to state whether they wish them to go through with the full course of education; and if not, to specify, particularly, those branches to which they desire them to attend, and also to mention their ages.

The course of Latin, Greek, Hebrew, French, and English languages, Arithmetic, the construction and use of Logarithms, Algebra, Geometry, Plane and Spherical Trigonometry, Planometry, Stereometry, Mensuration of heights and distances by Trigonometry, and also Geometrically, practical Geometry generally, including particularly Surveying and Leveling, Conic Sections, the use of the Barometer, with its application to measuring the altitudes of mountains and other eminences, Mechanics, Hydrostatics, Hydraulics, the elements of Chemistry and Electricity, Optics, Astronomy, Navigation, Geography, including the use of Maps and the Globes; Composition, Logic, History, Ethics, the elements of Natural and Political Law, the Law of Nations, Military Law, the Constitution of the United States, and of the states severally, Metaphysics; Agriculture, Permanent and Field Fortification, Field Engineering generally, the construction of Marine Batteries, Artillery duty, the principles of Gunnery, a complete course of Military Tactics, the attack and defense of fortified places, Castrametation, ancient Fortification, the ancient modes of attacking and defending fortified places, the ancient Tactics, particularly those of the Greeks and Romans, with a description of the organization and discipline of the phalanx and legion; Book-Keeping, Music, Fencing, Military Drawing, Topography, Civil Engineering, including the construction of Roads, Canals, Locks, and Bridges; Architecture.

The Hebrew and French languages, Fencing and Music will not be considered as comprised in the regular course of education, and consequently those who attend to them will be charged separately.

MILITARY EXERCISE, AND DUTIES.

The students will be regularly and correctly instructed in the elementary school of the soldier, and also in those of the company and battalion; they will likewise be taught the regular formation of military parades, the turning off, mounting, and relieving guards and sentinels; the duties of officers of the guard, officers of the day, and adjutants; the making out correctly the different descriptions of military reports; in fine, all the duties incident to the field or garrison. The military exercises and duties will be so arranged as not to occupy any of the time that would otherwise be devoted to study; they will be attended to at those hours of the day which are generally passed by students in idleness, or devoted to useless amusements, for which they will be made a pleasing and healthful substitute. Practical scientific operations will be frequently attended to, which will conduce equally to health and improvement.

The students will be required to sleep on mattresses, or straw-beds; no feather-beds will be allowed in the establishment.

For the purpose of giving to the students a military appearance, when engaged on military duty, and also on a principle of economy, they are required to wear a uniform dress, a description of which is hereunto annexed. In prescribing a dress, it has been endeavored to combine as far as possible, cheapness and a neat military appearance, with such a form as, while it leaves the student the free and unrestrained use of his limbs, will at the same time encumber him the least possible. The discipline will be strict, but correct; and particular attention will be given to the full development and due cultivation of all those liberal, manly, noble and independent sentiments which ought to characterize every American, whether citizen or soldier. The strictest attention will be given to the health, manners and morals of the students. They will be continually under the personal inspection of the superintendent, who will bestow upon them all that care and attention which it is believed their parents, under similar circumstances, would bestow.

MILITARY LECTURES.

For the accommodation of gentlemen, (particularly of those holding commissions in the volunteer corps and militia,) who may not wish to go through with a regular course of military studies and instruction, and also for the purpose of diffusing military science more generally, Capt. Partridge will deliver annually at the before-mentioned seminary, three courses of public lectures; the first course to commence on the second Monday in May, the second course on the second Monday in July, and the third course on the first Monday in October, annually. These lectures will embrace the following branches of military science and instruction, viz.:-

1st. Permanent and field fortification, the construction of field works generally, and also of marine batteries.

2d. The attack and defense of fortified places.

3d. The use of artillery, with a general exposition of the principles of gunnery.

4th. Military Tactics.

5th. Garrison and field service of troops, embracing particularly their police and rules for turning off, mounting and relieving guards and sentinels, and also for guard duty, likewise castrametation.

6th. General rules for the attack and defense of a province or country embracing an exposition of the principles of base lines of operation.

7th. Rules for the inspection and review of troops.

8th. A summary of ancient fortification, and also of the ancient modes of attacking and defending fortified places.

9th. A summary of the ancient tactics, particularly those of the Greeks and Romans.

10th. A description of some of the most celebrated battles and sieges, both of ancient and modern times, for the purpose of practically illustrating the principles explained in the lectures. In order to render the lectures on fortification perfectly intelligible, plans will be prepared, on which the several parts of a work will be clearly and distinctly exhibited.

Particular attention will be given to a full explanation of all the technical terms used in fortification, as well as in the other departments of military science. A full course will comprise about twenty lectures; five to be delivered in each week until the course be finished. The terms for attending a course will be ten dollars. Gentlemen subscribing for two courses, will be allowed ever after to attend gratis. All those attending the lectures, will be entitled, during the time of such attendance, to practical military instruction, and also to the privilege of the reading-room, without any additional charge.

On the 1st of April, 1825, Cpt. Partridge was induced by liberal overtures from citizens of Middletown, Conn., to leave his institution at Norwich, and remove to Middletown, Conn., and reopen it in that city. Before doing so he published a card in which he exhibits the progress and results of his labors at Norwich.

This seminary was opened at Norwich, in the state of Vermont, on the 4th of September, 1820, under my immediate direction and superintendence; and although the plan was new and untried, besides containing principles, which were by many considered discordant with each other, viz., the connecting of mental improvement with a regular course of bodily exercise, and the full development of the physical powers, the whole conducted under a military system of discipline; still its success has exceeded, rather than fallen short, of my most sanguine expectations.

The following extract from a recent report of the adjutant of the institution, compiled from the rolls and other authentic documents, will enable the public to form their conclusions, from facts on this subject.

1st. The total number of cadets who have joined the institution, since its organization, is 480.

2d. The numbers from the respective states, and other sections hereafter mentioned, are as follows, viz. :—

From Maine,	28	From South Carolina,	45
Massachusetts,	89	Kentucky,	2
New Hampshire,	57	Georgia,	7
Vermont,	115	Ohio,	1
Connecticut,	33	Louisiana,	4
Rhode Island,	10	Mississippi,	5
New York,	40	Missouri,	1
Pennsylvania,	15	Michigan,	2
New Jersey,	6	District of Columbia,	2
Delaware,	2	Lower Canada,	2
Maryland,	4	Havana, Island Cuba,	1
Virginia,	1	Island Scio, Greece,	1
North Carolina,	7		

3dly. Of the above number, twenty are commissioned and warrant officers of the U. S. Navy, viz., 4 lieutenants, 1 assistant-surgeon, and 15 midshipmen.

4thly. Out of the whole, 441 have been engaged in the study of the Mathematics, and out of this number 145 have completed a full course of "*Hutton's Mathematics*." Of these, 80 have, in addition, attended to practical Mathematics, 56 have continued their course through the study of Philosophy, and others are now fast progressing in the accomplishment of those higher branches also.

5thly. The whole number who have studied the Greek and Latin languages, is about 150. Of these, 25 have advanced far towards completing a course, although none have gone entirely through. Of those not included in the last-mentioned number, many have fitted for college, or progressed still farther, and many are progressing. What is here considered a course, is the same which is laid down in the prospectus, which could be scarcely completed in the period since the establishment of the institution.

6thly. The number of those who have attended to the French language, is about 130. Twenty have become well acquainted with the language—80 are very well advanced, and many of the remainder have made respectable progress.

7thly. About ten or twelve of those who have been, or are now members of the institution, have devoted considerable time and instruction of the militia or volunteer corps, in this and various other sections of the country, and many of them are still engaged in that useful employment.

Of those who have been, or are now, engaged in the study of the Latin and Greek languages, I flatter myself there are several who would not suffer by a comparison with any of the same degree of advancement at our older and most approved seminaries; and as a school of practical science, I have little hesitation in asserting, that it is second to none in our country. In confirmation of this assertion, I would observe, that since the establishment of the seminary, my pupils, in addition to their usual exercises in practical geometry, and many operations of minor consequence, have executed, in a very handsome manner, a profile of the country, exhibiting the perpendicular altitudes of all the prominent points, above tide water, as determined by actual observation, from the summit of Manchester mountain, in the state of Vermont, to the summit of mount Washington, the highest elevation of the White Mountains, in the state of New Hampshire, a distance of 165 miles. They have also executed a similar profile from Norwich to Whitehall, in the state of New York, a distance of sixty-eight miles, and

have further executed a trigonometrical survey of the country around Norwich, for a distance in some directions, of about twenty miles. This survey was commenced, and has been prosecuted, in such a manner as to serve as a basis for any further operations that may be thought necessary. A handsome topographical plan of this survey is finished.

In the department of French, it is believed, the pupils have made as rapid progress as at any seminary in our country, and in Mineralogy, Botany, &c., although but recently commenced, there appears to be much zeal, and a corresponding improvement, amongst the classes which have attended, and those still attending, numbering about sixty.

Music and fencing have been attended by a large proportion of the members, and with a progress highly creditable to them.

The military exercises and duties are common to all the cadets, and it is believed very few have left the seminary, who were not competent to instruct from the elementary drill of the soldier, to embrace the school of the battalion, and who, in addition, did not possess a very competent knowledge of the principles of the grand tactics, of the elements of permanent and field fortification, of the principles of gunnery, &c. The beneficial effects of the regular system of exercise and active duty, to which my pupils are subject, upon their health, has been fully equal to my expectations. But one death has happened at the institution, since its commencement; and this was a youth who had just entered his name on the rolls, but was attacked by a prevailing epidemic, of which he died, before commencing his studies or regular duties. Several who joined the seminary feeble and debilitated, have in a short time been entirely restored to vigorous health. Indeed, such has been the result, I believe, without a single exception. That a youth may, by means of a regular system of exercise, preserve all his bodily activity and vigor, and at the same time apply himself most assiduously to study, I have never had any doubts; but if I had, the facts developed since the establishment of this seminary, would have dispelled them. Many of my pupils, and those the closest applicants to study, walk with facility forty miles per day. In the summer of 1823, several of them left Norwich at day-break in the morning, walked to the summit of Ascutney mountain, and returned to Norwich about 9 o'clock in the evening of the same day—the whole distance forty-six miles; which, considering the fatigue and difficulty of ascending and descending the mountain, (upwards of 3,000 feet high,) may reasonably be estimated as equivalent to sixty miles on the usual roads of the country. They continued their regular studies and other duties the following day. In September, 1823, a party of nearly thirty accompanied me on a pedestrian tour to the summit of Manchester mountain, in the state of Vermont, a large portion of whom traveled 150 miles in four days, and on the fourth day one of the party, a youth of sixteen years of age, walked by my side forty-five miles. On a recent excursion to the summit of the most elevated of the White Mountains, with a party of fifty of my pupils, a large portion of them, on the last day, walked forty-two miles. Belonging to this party, was a youth of but twelve years of age, who walked the whole distance, (160 miles,) carrying his knapsack, with clothes, &c., and returned in perfect health.

Since the latter part of June, 1821, the cadets, as a military corps, have executed, under my personal command, six military marches, amounting, in the aggregate, to 637 miles. Different detachments from the corps have also, within the same time, in addition to several of minor importance, performed, under my personal direction, four pedestrian excursions, for practical scientific purposes, amounting in the aggregate to 684 miles, and which, added to the former, gives $637 + 684 = 1321$ miles. To this may be added an excursion to the White Mountains, whole distance 170 miles, by a party which I did not accompany, and which will make the total distance traveled in those marches and excursions, 1491 miles.

The foregoing facts are stated for the purpose of illustrating and confirming the correctness of the opinion I have so often advanced in my lectures on education, relative to the practicability, and even facility, of combining the full development and perfection of the physical powers of youth, with a due cultivation and improvement of the mental faculties. Whether a young man, who enters on the grand theater of active life, with a mind and body equally vigorous and improved, who, while he has a head to conceive, possesses also an arm to execute, will or will not possess advantages in the discharge of the various duties he may be called upon to perform, over one, who has grown to the age of manhood, puny and debilitated, destitute of physical energy, and incapable of bodily exertion, I shall leave to the sound discretion of the American people to decide.

As it respects the effect of the system on the morals of youth, I would observe, that I feel confident no one has left the institution worse than he joined it, and that I flatter myself, several have, in this respect, been improved. Next after the influence of religion, I consider habits of industry and economy as constitut-

ing the surest basis of morals amongst youth. To instill these into the minds of my pupils, ever has, and ever will be, a leading object; and I consequently shall imperatively require the strictest adherence to all the regulations bearing on those points, by all concerned. I would therefore beg leave to assure the parents, guardians, and relatives of my pupils, that the regulations prohibiting the cadets being furnished with money, otherwise than by the superintendent, or by his express permission, is to be taken in its literal meaning, (without exception,) and must be adhered to under all circumstances; and that any deviation from it will be followed by immediate dismissal. I would much prefer that the great body of my pupils should enter young, and grow up under my system. The mind and body are then more susceptible of improvement, than at a more advanced period. Few, if any, vicious habits have then been formed, and the morals, under a strict and regular discipline, may easily be preserved. It is my fixed determination not, knowingly, to admit any young man of confirmed vicious or dissipated habits into the institution. I would accordingly recommend to parents and guardians not to send me any of this description; for if they should gain admission, and did not immediately reform, (which seldom occurs when the habits are confirmed,) it would only eventuate in their dismissal, and consequent disgrace. It is much easier to prevent a youth from acquiring bad habits, than to correct them after they are acquired. If parents and guardians will send me their sons and wards free from habits of dissipation, immorality, and vice, I will guarantee, as far as human agency will authorize, that they shall be preserved free from such habits, while they remain under my care. Every requisite means will be used to correct the foibles and faults incidental to youth—to accomplish this object no pains will be spared. With their foibles I will bear as much as any person, but with their vices I will make no compromise. For the purpose of enabling me the more readily and the more certainly to accomplish this important object, I must request parents and guardians, if their sons or wards have foibles or faults, frankly to state them to me. On this subject there should be no reserve; as, with such information, I should know much better what course to pursue with them.

The favorable view taken of the aims, progress, and results of the scientific and military training provided by Capt. Partridge in his Academy at Norwich, was amply justified by the success of his pupils at Middletown, as practical men in various departments of business and public life.

On account of the condition on which he held a portion of his property at Norwich, Capt. Partridge was obliged to maintain there a literary institution, after his removal to Middletown. When he discontinued his labors at the latter place, and not succeeding in his plans for establishing a scientific and military school in the neighborhood of New York, he returned to Norwich, and in 1832, made preparation to reestablish his Academy on its old basis, and with enlarged premises. With this view he erected the building known as the North Barracks, which were occupied for two years by Rev. Amasa Buck, for the purposes of a Methodist school, known as the Franklin Seminary.

NORWICH UNIVERSITY.

In the spring of 1834, a number of gentlemen associated to establish at Norwich, not an academic, but a collegiate institution, after Capt. Partridge's views, and in the autumn of that year, obtained from the Legislature of Vermont, a charter by which the petitioners were constituted a Board of Trustees of an institution by the name of the *Norwich University*. The charter further provides "that the said Board shall be required to furnish at said institution constantly a course of Military instruction, both theoretical and practical, and also in Civil Engineering, and the practical sciences generally; and the President of said institution, with the consent of the Trustees, shall have power to give and confer all such diplomas, degrees, honors, or licenses, as are usually given or conferred in Colleges or Universities, at their discretion; provided, however, that in so doing they shall have respect to the morals and merits of the candidate alone."

This act of incorporation named fourteen gentlemen, and provided for the election of eleven others, which twenty-five should constitute the Board of Trustees of Norwich University. The first meeting of the Trustees was held at Norwich, Vt., January, 1835. The vacancies in the Board were then filled, and the first members of the Faculty were elected, viz.:—ALDEN PARTRIDGE, "President and Professor of Moral and Intellectual Philosophy, History, Science of Government, Political Economy, and Military Science and Tactics;" TRUMAN B. RANSOM, Vice-President, and Professor of Natural and Experimental Philosophy, Mathematics, Theoretical and Practical, and Civil Engineering; M. NORAS, Professor of Ancient and Modern Languages; and FRANKLIN MARSH and I. M. HORN, assistants in the English Department. These gentlemen were authorized to form a course of study and laws for the government of the institution.

In May, 1835, the University was opened under the auspices and in the buildings owned by Capt. Partridge, with a full course of literary, scientific, and military studies. Among those enumerated in the first prospectus were Military Law, Military Drawing, Civil and Military Engineering. "Military Science being considered an important appendage to the education of every American youth is taught theoretically in all departments of the University. The military exercises are attended at those hours of the day which are generally passed by students in idleness or devoted to useless amusements, for which they will be made a pleasing and healthful substitute." "The discipline will be strict, but correct; in principle, military. It will be a great and leading object to instill into the minds of students liberality of sentiment and principles of honorable integrity and attachment to our republican institutions. Everything of a sectarian character in religion will be entirely excluded and all literary honors will be conferred in accordance with scholarship and moral worth alone."

At the close of the academic year, 1835-6, (August 18, 1836,) the first Annual Commencement took place, and the class of 1836 then graduated, consisted of one person, Alonzo Jackman, now Brigadier-General in Vermont, and Professor of Mathematics, Military Science, etc., at the University. Professor Ransom, entered the United States Navy about this time, and Mr. Jackman was appointed to fill the vacant Professorship. Soon after this, Rev. Zerah Colburn, succeeded Professor Noras. August 17, 1837, the second Annual Commencement was held, and Hon. George McDuffie, of South Carolina, delivered the address; the next year Robert Rantoul, Jr., of Massachusetts, was the orator; in 1839, John Wentworth, of Illinois, and Thomas H. Seymour, of Connecticut, were speakers; and in 1840, Benjamin F. Hallett, of Boston. The catalogues of each of these years show that the number of students, or cadets, averaged a little less than a hundred, and in all the catalogues, the regulations for the Police of the Cadets' Quarters were given in full. They provided for all the military duties of the students, for the wearing of uniform, etc., etc.

In July, 1840, the Corps of the University under the command of Captain Partridge, performed a military march across the State to Fort Ticonderoga. They were just a week on the excursion, and in that time, they marched nearly a hundred and fifty miles on foot, about twenty-five miles per day. Notwithstanding the excessive warmth of the day, and the exposure to the air of the night, with no other covering than the soldiers' blanket, the Cadets all returned in good health and spirits.

During the year 1843, several changes took place in the University. From

the time Mr. Ransom resigned the Vice-Presidency, until May, 1843, that office was filled by Hon. Aaron Loveland. Mr. Ransom returned at this time, and was again made Vice-President, and Professor of Civil and Military Engineering, etc. The buildings and land used up to this time, were the property of Capt. Partridge. During May, arrangements were made for the purchase of this property by the University, but some misunderstanding occurred before this was done, and in November, President Partridge resigned, and took from the armory all the arms and accoutrements, attempted to revive his old Academy in another part of the village, and finally, when the University could not purchase his property at his prices, obliged the students to remove from the buildings. On his resignation, Truman B. Ransom was chosen President, and for the two years the institution was carried on in other buildings in the town. The Legislature was applied to, and appropriated a hundred stand of arms, sets of accoutrements, etc., for the use of the students. At last an arrangement was made with Capt. Partridge, for the purchase of his property, and the University returned to its old quarters. The number of students was small during these difficulties, but the military department was always active, a good military education was given, and men were graduated who now hold responsible places in the military service of the United States among the Federal troops.

In May, 1847, President Ransom, then Major-General of the Vermont Militia, resigned his place at the University, accepted that of Colonel of the "New England regiment," ninth infantry, and went with that body to Mexico. September 13th of the same year, he was shot while gallantly leading the charge of his regiment upon the fortifications of Chapultepec. When Gen. Ransom left, Prof. James D. Butler was appointed President, *pro tem.*, and in January, 1848, Gen. Henry S. Wheaton, of Massachusetts, was elected President, and served as such till August, 1849; he was succeeded in September, 1850, by Rev. Edward Bourns, LL.D., who still (1863,) holds that office.

Soon after 1850, the opposition to anything of a military education became very strong, the number of Cadets at this institution diminished, and the tone of the prospectus changed to suit the public. "The discipline is military in principle and form. The Cadets are under military organization, they dress in uniform, are regularly drilled with arms. But they are not made lovers of war! They are not found to adopt the profession of arms more than others of the same age, however educated; oftentimes the harmless practice of handling arms at this age, is found to satisfy the craving for the use of them, and these young men settle down into the ranks of peace more easily and more contentedly than those that have had no such training. The drill is an agreeable exercise. The system of discipline is strict, though not oppressive, its sole object is to preserve order and promote study." "The object is not to make soldiers, but to strengthen the body." During these years (from 1850 to 1860,) the prospects of the University were not bright. It was at once engaged in lawsuits, and troubled with debt and opposition. In 1853, it was proposed to move the University to Montpelier, but the project was finally abandoned, the last of the old Academy property was bought, the buildings were repaired and the institution freed from debt. Previous to 1850, the finances were in a very confused state. When the charter was obtained, land to the value of fifteen hundred dollars was brought and deeded to the University. The sale of this, and subscriptions from Trustees and citizens of Norwich, produced enough to purchase the North Barracks.

The money received of students for tuition was always, and is still, all used for paying the salaries of the instructors. The room-rents scarcely paid the rent and repairs of the South Barracks, and the University ran slightly into debt. The State, in 1853-4, gave the institution about thirteen hundred dollars of an unappropriated school fund, and enough more was raised by friends of the University to purchase the South Barracks, and pay off old debts, and put all the buildings in good repair. For several years it was obliged to struggle against a load of popular prejudice on account of its military feature, but since 1861, it has brushed up its uniform, and its Military Department no longer seeks to hide itself. No such semi-apologies for the military training of its students appear in its catalogues and prospectus for 1861 and 1862.

"The Norwich University differs from most colleges in two respects. These are its double system of study, consisting in an Academic and a Scientific course; and its department of Military Science. The Academic course comprises those studies usually pursued in other colleges; the Scientific embraces Mathematics, Natural Sciences, Belles-Lettres, Surveying, and Engineering. Four years are required to complete the former, and three, the latter course of study. Students are also allowed to take a partial course in either department. The students of all departments are regarded as equals.

"The feature, however, which more than any other distinguishes Norwich University from other Collegiate institutions, is the department of Military Science and Tactics.

"Agreeably to the provisions of its charter, the students are all under Military discipline—are called Cadets—dress in uniform, and are instructed in Infantry, Rifle, and Artillery Drill, Bayonet Exercise, Fortification, Reconnoissance, Castrometation, Guard and Out-Post duty, &c., &c. All the arms and equipments necessary for drills are furnished by the State of Vermont. * * *

"The military feature of this institution is one which should particularly commend it to the notice, and patronage of the public at this time. The want of men skilled in Military Science and Tactics, to take command of volunteer forces, and discipline them into effective soldiers, has been severely felt in organizing the present army of the United States. The reverses with which it has met are, without doubt, owing largely to this cause. To guard against this defect in the future, it is now generally felt that young men should be educated thoroughly in every department of Military Science. In times of peace this knowledge would not incapacitate men for nor interfere with any other business;—while in times of war, it would become invaluable to the country in training an army for efficient service."

The following persons constituted the Faculty in 1862. Rev. EDWARD BOURNE, LL. D., President, and Professor of Moral Sciences, Ancient Languages, and Literature; ALONZO JACKMAN, A. M., Brigadier-General Vermont Volunteer Militia, Professor of Mathematics, Natural Philosophy, Military Science, and Tactics; THOMAS R. CROSBY, M. D., Professor of Anatomy, Physiology, and Natural History; CLINTON S. AVERILL, A. M., Acting Professor of Natural Sciences; GEORGE BAILLARD, Professor of Modern Languages, and Linear and Architectural Drawing; SAMUEL W. SHATTUCK, B. S., Tutor in Mathematics and Military Tactics; ALONZO JACKMAN, A. M., Librarian.

V. MISS CAROLINE PLUMMER.

[Compiled from a "Memoir of the Plummer Family," by Hon. D. A. White.]

MISS CAROLINE PLUMMER, one of the largest benefactors of education, science, and christian morality, in the annals of female beneficence, was born in Salem, Mass., on the 13th of January, 1780. Her father, Dr. Joshua Plummer, was a native of Gloucester, who, after graduating at Harvard College in 1773, studied and practiced medicine there until 1785, and at Salem until his early death in 1791, at the age of thirty-five. Her mother, Olive Lyman, was the daughter of Rev. Isaac Lyman of York, and aunt of Theodore Lyman, the liberal benefactor of the State Reform School at Westboro, Mass. Left, by the death of her husband, with a family of seven children dependent on her care, Mrs. Plummer by her own energy, with the faithful and affectionate co-operation of the older boys as they grew able to assist her, managed by continuing for a time the apothecary shop of her husband, and by taking in a few boarders, to give them all a good education, and fit them to adorn the highest walks of social life. Her home was the loved resort of her children, and made charming by an unobtrusive exhibition of genuine domestic and social virtues, and a richly cultivated understanding. Her daughter Caroline was eminently distinguished by intellectual gifts and graces, and her power of conversation. Judge White, who made the acquaintance of Miss Plummer in 1803, remarks that her social distinction was the natural result of her fine endowments and the social influences under which she had lived and been educated. Her education, taking the word in its broadest sense, though simple, was of a high order. Her only school teachers were Mrs. and Miss Higginson, who were among the best and most truly refined women of that day in New England. Of a similar character were her associates at her mother's table and fireside, and in the various families where she was a privileged visitor and inmate. When with her grandparents at York, she must have had substantial literary instruction and been under influences conducive to the high moral principles for which she was ever remarkable. In her character and attainments she strikingly resembled her grandmother Lyman, who was educated

by one of the ablest divines of the country, and who added to a gentle dignity and winning sweetness of character, the attractions of a highly cultivated mind. She had cultivated the same familiarity with the British poets, extended to an intimate acquaintance with English literature generally. In Salem her friends and companions were of the choicest character. From infancy to maturity, indeed, she appeared to have known no other. Dr. and Mrs. Bowditch, whose house and whose hearts were always open to receive her, were her sincere and steadfast friends. With them she was most intimately confidential. Dr. Bowditch was at all times her wise counselor as well as dear friend, and his influence was as valuable to her as it was great. No one better understood her whole character, or held it in higher esteem. In the last interview I ever had with Dr. B.—a few days before his death,—he spoke with much feeling of several of his Salem friends, and in relation to Miss Plummer I will remember the emphatic manner in which he said,—“On every point of integrity and honor Caroline Plummer is as true as the needle to the pole.”

Miss Plummer was nowhere happier than in Salem, and the period to which we have referred, about 1804, was perhaps the happiest of her life. With no anxious cares for her brothers—whose prospects were flattering—and surrounded by admiring friends, whom she loved, she could freely enjoy the richest pleasures of social life. The society of Salem at that time was adapted to her taste and habits, and she was remarkably adapted to that. Salem still retained much of its old character of combined economy, simplicity and intelligence. Social parties were managed with a view to rational enjoyment, not for display of any kind,—free from needless ceremony, and rarely so large as to interfere with the main purpose. Conversation and friendly intercourse were relied on for the chief entertainment. Caroline Plummer's expected presence was a sufficient attraction to all who loved such an entertainment, which she was so sure to afford. Yet she did not talk with apparent design to entertain—certainly not to set off her powers, of which she seemed unconscious; and this absence of all pretension added to the charm of her society. Her rich thoughts and sentiments flowed out spontaneously in appropriate language, often enlivened with genuine wit and humor. Her literary attainments, which were considerable, did not hang as ornaments on her mind to be displayed occasionally, but were so blended with her native good sense and the results of her own experience and observation, that they appeared alike natural and graceful;—and, what is perhaps a rarer excellence, her conversation was characterized by a

high moral tone and true dignity, being as free from all scandal as it was above mere frivolity.

But her bright social career was closed by a succession of domestic afflictions which are briefly recorded in the following inscriptions that she prepared for a monument which she contemplated erecting to the memory of her brothers :

THIS MARBLE is placed to the Memory of the Sons of Dr. JOSHUA and Mrs. OLIVE PLUMMER, as a tribute of the strongest and purest affection the human heart is capable of feeling, by a Sister, towards whom the Brothers united the characters of Parents, Children, the tenderest Friends and the sweetest companions.

LYMAN PLUMMER, aged 17; killed, June, 1805, by the Indians of the N. W. coast of America, while defending the property of another.

OCTAVIUS PLUMMER, aged 28; supposed to be shipwrecked on his passage from London to America, December, 1812.

THEODORE PARSONS PLUMMER, aged 27; died at Havana, November 9, 1813.

And under its shelter lie the ashes of ERNESTUS AUGUSTUS PLUMMER, aged 42; who died September 28, 1823.

The surviving sister, after years of lingering illness, died on the 15th of May, 1854. For more than thirty years, Miss Plummer lived, the last survivor of her worthy family, to every one of whom she had been bound by the strongest ties of love. Her seclusion from general society could not have been unexpected, though the soothing hand of time softened her grief and enabled her to enjoy the company of her chosen friends and the gratification of her refined tastes. Her favorite books, pictures, and other works of art, with which her rooms were adorned, and the kind friends who visited her in those rooms, afforded all the entertainment which she appeared to desire. Her nerves had been shattered, and her health so impaired, that she was ever after a suffering invalid. Yet she did not lose the vigor or the lofty aspirations of her mind. Among her most admired authors was Dr. Channing, and her intimate friends knew how earnestly she prayed for the strong and elevating faith which he so fully possessed. Her habits of strict economy might have appeared to superficial observers unworthy of her character, while her independent spirit and conscious rectitude made her indifferent to popular prejudice. Having determined to dispose of her large property for beneficent public purposes, she naturally discouraged applications for her contribution to other objects, not merely in accordance with the habits of her life, but because she wished to reserve all the property she could for her great intended purposes. She was a true daughter of Salem. "Charity and economy were nursed together," in the early years of each, and were followed in each by abounding wealth.

MISS PLUMMER'S BEQUESTS.

Plummer Professorship of Christian Morals.

By a codicil in her last Will, dated March 9th, 1845, Miss Plummer made provision for establishing a new Professorship in Harvard College, as follows:

"The estate of my late (entirely beloved) brother Ernestus Augustus Plummer, having fallen into my hands for disposal thereof, and I wishing to bequeath it as I think would be most agreeable to his wishes, do now, in fulfillment of what I verily believe would have been his wish, give and bequeath the sum of Twenty-five Thousand Dollars to the President and Fellows of Harvard College, which I direct to be safely invested or put at interest, and the income thereof to be forever appropriated for the support of a Professor of the Philosophy of the Heart and of the Moral, Physical and Christian Life, in Harvard University, whose province it shall be, according to rules and exercises established from time to time by the said President and Fellows, and on the basis of Christian faith and love, to enlighten all who are or may be engaged in the education pursued there, whether governors, instructors or students, in the manner of discharging their respective duties, so as best to promote generous affections, manly virtues and Christian conduct, and more especially, to aid and instruct the students in what most nearly concerns their moral and physical welfare, their health, their good habits, and their Christian character, acting towards them, by personal intercourse and persuasion, the part of a parent, as well as that of a teacher and friend.

The Professor shall be of the Christian religion, and a Master of Arts, and bearing the character of a learned, pious, and honest man. He shall be elected by the President and Fellows, and approved by the Overseers of Harvard College for such a term of years as may by them be ordered."

By a subsequent instrument the amount devoted by Miss Plummer to the purpose thus set forth, was reduced to Fifteen Thousand Dollars.

The Corporation of Harvard assumed the trust, and among the Rules and Statutes governing this trust are the following:

"The Professor shall be styled '*Preacher to the University and Plummer Professor of Christian Morals.*' His duties shall be:

1. To conduct the daily devotions in the College Chapel.
2. To be the preacher and pastor of those who worship in the College Chapel on the Lord's Day.
3. To give such moral and religious instruction to the undergraduates, whether by lectures or recitations, as shall be agreed upon in the assignment of studies by the College Faculty.
4. By counsel and sympathy, by personal intercourse, occasional voluntary meetings, and other suitable means, to warn and guard the students against the dangers to which they are exposed; to supply, as far as may be, their need of home influences, and to promote among them an earnest Christian faith and life.

It shall be at the option of the Professor, whether to belong to the College Faculty or not."

PLUMMER FARM SCHOOL.

The *Plummer Farm School*, intended for the instruction, employment and reformation of juveniles in the City of Salem, is founded on the following provision of Miss Plummer's Will:

"Said sum of ten thousand dollars so withdrawn,* also eight thousand dollars, which, in a former Will, I bequeathed to Oliver Keating, who is now deceased, together with all the residue of my estate that may remain after paying my debts, funeral charges, bequests and legacies hereinafter given, and executing my directions according to private memorandums (said memorandums not to be subject to Probate,) I give and bequeath to William I. Bowditch, in trust, to be appropriated to the founding of a Farm School of Reform for Boys,

* Withdrawn from the sum of \$25,000, first designed for the Plummer Professorship.

for the City of Salem, in the County of Essex, State of Massachusetts, on a plan similar to that of the State Reform School. And I direct my said trustee to pay the same sums and residue, together with any interest that may have accrued thereon, to such trustees or their treasurer, as may be chosen by the Mayor and Aldermen of Salem, and incorporated by an act of the legislature with such powers and provisions as shall be judged best adapted to carry my said design of a Farm School of Reform into complete effect. And it is my will, that my said trustee, William I. Bowditch, shall not be required to give bonds as such trustee, I having full confidence that he will faithfully execute the same. Should these united sums be inadequate to the object, they shall be safely placed at interest until they amount to the sum deemed sufficient, unless a subscription be raised to supply any deficiency. In such case, my bequest aforesaid shall be used immediately for said Farm School of Reform."

The above bequest was accepted by the City Council, and in accordance with the terms of the Will, ten Trustees were chosen by the Mayor and Aldermen of the City of Salem, and an Act of Incorporation granted by the Legislature, May 21, 1855. The first meeting of the Board of Trustees was held November 26, 1855, at which time a code of By-laws was adopted and Officers were elected.

The amount of the Fund received from W. I. Bowditch, Esq., Trustee of the Will of Miss Plummer, July 1st, 1856, was \$25,462.23.

PLUMMER HALL.

Under the following clause of Miss Plummer's Will, the sum named therein (\$30,000) was paid over to the Trustees of the Salem Athenæum:

"I give and bequeath to the Proprietors of the Salem Athenæum the sum of Thirty Thousand Dollars, directing said bequest to be very distinctly recorded as a gift from my beloved brother Ernestus A. Plummer, I making the bequest in conformity to what I think would have been his wish, he having felt a deep interest in the welfare of this literary institution, and the observatory having been furnished with large additional funds. The said sum of thirty thousand dollars shall be appropriated to the purchasing a piece of land in some central and convenient spot in the City of Salem, and for building thereon a safe and elegant building of brick or stone to be employed for the purpose of depositing the books belonging to said Corporation, with liberty also to have the rooms thereof used for meetings of any scientific or literary institutions, or for the deposit of any works of art or natural productions. Should said library ever become a public one, this bequest shall not be forfeited. I expressly prohibit any part of said building or its cellar from being used as a public or private office of business or place for the sale or deposit of merchandise, being unwilling that said building should be used for any purpose which might endanger by fire the valuable library therein contained. The said building to be erected and the books belonging to the said Corporation to be deposited in it within three years from the time of receiving the legacy or of my decease. Said building to be kept constantly insured."

With this sum the Trustees of the Salem Athenæum have purchased a lot on Essex street, and erected a substantial, convenient, and elegant building for the accommodation of the Athenæum and the Essex Institute, of which the following is a description:

The building is in the form of a parallelogram, 97 feet 3 inches long by 53 feet wide. The exterior walls are faced with the best quality of pressed bricks and are 45 feet in height above the underpinning, which is 4 feet 6 inches high, and is of brown sandstone. The steps, doorway, window dressings, balcony, belts, etc., are also of the same material. The style of the building is the Romanesque.

The principal entrance is from the end or façade on Essex street. The first story is finished 16 feet 6 inches in height, and contains a vestibule 14 feet square with doors on the right and left side leading to rooms each 34 feet in length by nearly 16 feet in width; that on the left is appropriated to the herbarium of the Institute, and that on the right to the historical collection;—in the rear of the vestibule is the great staircase to the principal story, octagonal in

form and 18 feet in diameter, and is consequently not far from the centre of the edifice; beyond is the principal room, 58 feet long by 48 wide, which is also connected by doors with the two rooms above mentioned, and has been finished expressly for the accommodation of the geological, mineralogical and zoological departments; a light gallery, with a neat iron railing, extends entirely around the room, being constructed in a serpentine form, receding into each space between the cases, access to which is by two flights of spiral iron stairs, each 5 feet in diameter.

The stairs leading to the principal story commence at the bottom in two flights, each of which are 4 feet 6 inches wide, one on each side of the stair-room—they are continued in this manner to a height of ten feet, where they terminate at a landing, and are continued thence in a single flight 6 feet wide to the floor above; a fine dome is finished over the stair room with a colored glass centre at the apex; at the landing of the stairs on the principal floor is a vestibule corresponding to the one below, from which is a long window leading to the stone balcony over the principal entrance, also doors from the two sides to rooms of the same dimensions and form as those of the entrance story; that on the right is appropriated to the use of the Librarian, and for the deposit of some of the books of reference and the new books belonging to the Athenæum—that on the left to the bound volumes of newspapers of the Institute, and the Library of the Essex South District Medical Society, which contains about 700 volumes;—both of these rooms may be used as reading rooms.

The large Library room is in the rear, and is of the same dimensions as the principal room of the first story, viz., 58 by 48. It is entered by doors from the two rooms above named, and is finished in an elegant manner, having a range of Corinthian columns on either side, about 21 feet high, with an entablature above them, each range being 12 feet from the side walls, leaving a space of 24 feet between the ranges in the center of the room. The ceiling over the aisles or spaces, between the columns and walls, is horizontal, 24 feet high from the floor, and is neatly paneled. That over the nave or center compartment is arched its entire length, finishing 31 feet high from the floor, and is richly paneled in stucco. The cases on the sides of the alcoves are of a peculiar arrangement, commencing narrow at the back of the columns, and widening as they extend toward the sides of the rooms. The shelving being on each side and on the rear of the cases, also in the spaces between the windows. The nave is used for tables. A light balcony or gallery, similar to that in the room below, is constructed at the height of eight feet from the floor and is finished between the columns in a serpentine form, with a neat cast-iron railing. There is located at the rear end of the room a neat flight of spiral iron stairs, leading to the above-named balcony. The alcoves on the western side of this room contain the library of the Athenæum, those on the eastern that of the Institute.

NOTE.

THE SALEM ATHENÆUM was instituted and incorporated in 1810. In the same year the books belonging to the SOCIAL LIBRARY, which was established in 1760, and the books of the PHILOSOPHICAL LIBRARY, which was established in 1781, were purchased by the Athenæum. The present number of volumes in the Library is about 12,000.

THE ESSEX INSTITUTE was formed in 1848, by the union of the Essex Historical Society, which was organized in 1821, and the Essex County Natural History Society, which was established in 1833. It has an extensive and well-arranged cabinet of collections in history and natural science, and about 18,000 volumes, of which more than one-half were donated by Hon. D. A. White. In one of the rooms occupied by the Institute, is the Library of the Essex South District Medical Society.

The institutions accommodated by PLUMMER HALL embrace the great objects of Literary, Historical, and Scientific inquiry.

VI. EARLY TRAINING.

APHORISMS AND SUGGESTIONS—ANCIENT AND MODERN.

WE are physiologically connected and set forth in our beginnings, and it is a matter of immense consequence to our character, what the connection is. In our birth we not only begin to breathe and circulate blood, but it is a question hugely significant whose the blood may be. For in this we have whole rivers of predispositions, good or bad, set running in us—as much more powerful to shape our future than all tuitional and regulative influences that come after, as they are earlier in their beginning, deeper in their insertion, and more constant in their operation.

Here, then, is the real and true beginning of a godly nurture. The child is not to have the sad entail of any sensuality, or excess, or distempered passion upon him. The heritage of love, peace, order, continence and holy courage is to be his. He is not to be morally weakened beforehand, in the womb of folly, by the frivolous, worldly, ambitious, expectations of parents-to-be, concentrating all their nonsense in him. His affinities are to be raised by the godly expectations, rather, and prayers that go before; by the steady and good aims of their industry, by the great impulse of their faith, by the brightness of their hope, by the sweet continence of their religiously pure love in Christ. Born, thus, of a parentage that is ordered in all righteousness, and maintains the right use of every thing, especially the right use of nature and marriage, the child will have just so much of heaven's life and order in him beforehand, as have become fixed properties in the type of his parentage.

Observe how very quick the child's eye is, in the passive age of infancy, to catch impressions, and receive the meaning of looks, voices, and motions. It peruses all faces, and colors, and sounds. Every sentiment that looks into its eyes, looks back out of its eyes, and plays in miniature on its countenance. The tear that steals down the cheek of a mother's suppressed grief, gathers the little infantile face into a responsive sob. With a kind of wondering silence, which is next thing to adoration, it studies the mother in her prayer, and looks up piously with her, in that exploring watch, that signifies unspoken prayer. If the child is handled fretfully, scolded, jerked, or simply laid aside unaffectionately, in no warmth of motherly gentleness, it feels the sting of just that which is felt towards it; and so it is angered by anger, irritated by irritation, fretted by fretfulness; having thus impressed, just that kind of impatience or ill-nature, which is felt towards it, and growing faithfully into

the bad mold offered, as by a fixed law. There is great importance, in this manner, even in the handling of infancy. If it is unchristian, it will beget unchristian states, or impressions. If it is gentle, ever patient and loving, it prepares a mood and temper like its own. There is scarcely room to doubt, that all most crabbed, hateful, resentful, passionate, ill-natured characters; all most even, lovely, firm and true, are prepared, in a great degree, by the handling of the nursery. To these and all such modes of feeling and treatment as make up the element of the infant's life, it is passive as wax to the seal. So that if we consider how small a speck, falling into the nucleus of a crystal, may disturb its form; or, how even a mote of foreign matter present in the quickening egg, will suffice to produce a deformity; considering, also, on the other hand, what nice conditions of repose, in one case, and what accurately modulated supplies of heat in the other, are necessary to a perfect product; then only do we begin to imagine what work is going on, in the soul of a child, in this first chapter of life, the age of impressions.

I have no scales to measure quantities of effect in this matter of early training, but I may be allowed to express my solemn conviction, that more, as a general fact, is done, or lost by neglect of doing, on a child's immortality, in the first three years of his life, than in all his years of discipline afterwards. And I name this particular time, or date, that I may not be supposed to lay the chief stress of duty and care on the latter part of what I have called the age of impressions; which, as it is a matter somewhat indefinite, may be taken to cover the space of three or four times this number of years; the development of language, and of moral ideas being only partially accomplished, in most cases, for so long a time. Let every Christian father and mother understand, when their child is three years old, that they have done more than half of all they will ever do for his character. What can be more strangely wide of all just apprehension, than the immense efficacy, imputed by most parents to the Christian ministry, compared with what they take to be the almost insignificant power conferred on them in their parental charge and duties. Why, if all preachers of Christ could have their hearers, for whole months and years, in their own will, as parents do their children, so as to move them by a look, a motion, a smile, a frown, and act their own sentiments and emotions over in them at pleasure; if, also, a little farther on, they had them in authority to command, direct, tell them whither to go, what to learn, what to do, regulate their hours, their books, their pleasures, their company, and call them to prayer over their own knees every night and morning, who could think it impossible, in the use of such a power, to produce almost any result? Should not such a ministry be expected to fashion all who come under it to newness of life? Let no parent, shifting off his duties to his children, in this manner, think to have his defects made up, and the consequent damages mended afterwards, when they have come to their maturity, by the comparatively slender, always doubtful, efficacy of preaching and pulpit harangue.

DR. BUSHNELL. *Christian Nurture.*

Some recreations, to be taken from time to time, are not only always necessary, but are also expedient, because after such pauses the children return to their studies with more pleasure and earnestness.

Playing is also in itself a mark of activity of mind; and children who play in a slow and spiritless manner, will not show any remarkable aptitude for any branch of science.

Many plays, such as the answering of riddles, strengthen the reflective faculties; and afford the teacher valuable hints as to the character and capacity of the young people.

But on this subject also a judicious mean must be observed.

QUINTILIAN.

In education, as in the arts and sciences, and as in virtue itself, there are three things to consider; nature, instruction, and custom or practice.

Nature without instruction is blind. Instruction without nature is faulty; practice without either of them, is imperfect.

For as in farming, there are necessary good land, a good husbandman, and good seed, so must good natural endowments have the assistance of good teaching and admonition.

PLUTARCH.

The younger any one is, the more easily can he be improved in morals; for virtue is in its essence natural to men, while vice is strange to them.

SENECA.

It is an evil thing when by reason of severe punishments, children become angry at their parents, or at enmity with their teachers.

For many unskillful school-masters injure excellent minds with their banging, scolding, rapping and beating, treating the children exactly as hangmen and jailers do a thief.

Solomon, who was a judicious school-master, did not prohibit scholars from sports at the proper time, as the monks do their pupils, who thus become mere logs and stocks, as Anselmus says.

A young man shut up in this way and kept apart from men is like a young tree which ought to bear fruit, but is planted in a kettle.

The monks shut up the young, as people do birds in a cage; so that they can neither hear nor see anybody, nor talk to any one. Such treatment is dangerous to youth.

Therefore they should be allowed to hear and see, and go about to various places, but should at the same time be made to behave decently and orderly.

LUTHER.

The reflecting understanding teaches what is expedient with a view to goodness. But it is habit which gives men the real possession of the wisdom which they have acquired, and gives enduring strength in it.

PYTHAGORAS.

This is the most excellent way of living; to devote only so much care to the body as is sufficient for the health.

It should be kept under somewhat strict subjection, so as not to be disobedient to the mind.

Bodily exercises, if they are moderate, are useful, but those are harmful which are excessive, and make athletes. These latter obstruct the youth of the mind.

Light and easy exercises on the other hand, such as running races, swinging weights in the hand, and dancing, are beneficial.

Almost any bodily exercise, however, may be taken, if the student soon returns to his studies again.

The mind should be exercised both by day and by night. Moderate labor strengthens it.

Be solicitous to acquire one possession which will be sure to grow more valuable with age—good health.

The young ought not to sit constantly over books and by the study table.

Some repose should be given to the mind, but such as to refresh it; not to relax its efforts entirely.

However difficult it may be to root out bad habits when once fixed, still we ought no more to despair of doing it, than a physician should of curing a tedious disease, when the patient also is opposed to him.

Spoken words more easily make an impression, and are more easily remembered.

Modesty should be carefully cultivated. As long as it remains in the soul, there is hope of improvement.

Solitude is in various ways calculated to betray youth into all manner of wickedness.

As unhealthy localities endanger the firmest health, so are many places dangerous for the best dispositions.

Knowledge of youthful faults is the beginning of their cure. For how can he lay aside his vices, who considers them virtues?

For noble souls, work is nutriment.

It is not enough to begin the education; it must be continued.

It is better for a young man to be serious, than to be jovial and a favorite in large companies.

For it is with young people as it is with wine; that which is harsh when new, gains a fine flavor when it is old; but that which is sweet to begin with does not long retain its goodness.

For the sake of accommodating the weakness of pupils, speak to them often in parables.

In order to prepare good soil for the reception of instruction in wisdom and virtue, delusion and error must be extirpated.

As leaves can not grow green by themselves, but must have a twig to stand on and to draw sap through, so do the best precepts perish, if they stand alone, without being based upon substantial principles of instruction, and being rooted in such knowledge as is consistent with right and virtue.

SENECA.

"Yes," people say, "they are only children; they do not understand what they are doing."

It is true.

But animals do not understand what they are doing; and yet we teach them to go and come, and to follow us, to do or not do this and that thing.

Wood or stone does not understand that it is proper to build houses of; but the artisan puts it into the proper shape.

How much more should the like be done for man!

Or do other people's children understand what they are doing, and is it your own children only who do not?

People who indulge their children must bear their sins, as much as if they had themselves committed them.

Another class of people who destroy their children are those who deal with them by shameful words and curses, and also who present to them evil examples and conduct.

These will in the end be well paid for their folly, because they will often feel grief and sorrow of heart by reason of their sons.

Also, children, as is the custom of fiery youth, are inclined to evil lusts and to anger.

Therefore is it necessary that their parents should give them no further occasion for such actions by words or gestures.

For what else can you expect a child who hears cursing and foul words at home, to learn, except cursing and foul words?

A third class who destroy their children, are those who teach their children to love the world; who care for them in nothing except to see that they go bravely, can dance and adorn themselves, can please people, gratify their desires, and make themselves part of the world.

No one ought to become a father until he is able to repeat to his children the ten commandments and enough of the gospels to make them good Christians.

But many persons hasten to enter the sacrament of holy matrimony when they can scarcely say the Lord's Prayer. They know nothing and can therefore neither recite nor teach their children anything.

Parents should instruct their children aright in the fear of God.

If Christianity is to become part of their mental character, instruction must be given from childhood up. I would even permit it to be given in the cradle.

I say and admonish; that children should timely be taught by warnings, fear, admonitions and punishment, to abhor lying, and especially of calling God to witness it.

It is most excellent to watch carefully over the young, and keep them under good discipline and in good habits; and to this end all possible industry should be exerted, to keep the young boys and girls from seeing and hearing any shameful thing; for they have abundance of evil desires in their blood without it.

LUTHER.

To learn is, to proceed from something that is known, to the knowledge of something unknown.

Everything is learned, either by example, rule, or practice.

The truth is what must be held up before the understanding, the good before the will, the possible before the executive faculties; to which may be added practice, governed by rules.

Rules should not be set forth before examples.

In this particular artizans must be initiated; who do not deliver a theoretical lecture to their apprentice upon their trade, but cause him to observe how they, the masters, set about it.

Doing can only be learned by doing; writing by writing, painting by painting.

No second thing should be taken up until the first is well learned.

In connection with the second, repeat the first.

Teaching should be progressive; should proceed from the easy to the difficult; from few to many; from the simple to the compound; from the near to the more distant; from the regular to the irregular.

Actual intuition is better than demonstration.

It is useful to apprehend the same thing with several senses.

A matter is understood, when its inner nature is recognized in like manner as is its outer nature, by the senses.

For this inner comprehension is requisite a correct mental vision, a definite object, and persistent study.

Only one object should be considered at one time; and the whole of it first, and its parts afterward.

Memory has three purposes; to receive, to hold fast, to render up again.

The matters to be remembered must be distinct, connected, well-ordered; the mind not over-loaded with impressions, which will confuse each other, but calm, and directed only to one thing, and that with love or admiration.

Retention in the memory is facilitated by repetition; and recollection, by associated ideas.

The youngest children should be instructed in things visible.
 Upon such, pictures make the deepest impression.
 Examples are for them; and precept; but not abstract rules.
 The teacher should not be too much of a genius.
 Or if he is, let him learn patience.
 It is not always the pupils who understand quickest who are the best.
 The sloth of pupils must be compensated by the teacher's industry.
 Beginners must work slowly; and then faster and faster, as they advance.

Learning will be pleasant to the pupils, if their teachers treat them in a friendly and suitable manner; show them the object of their work; do not merely listen to them but join in working with them and converse with them; and if sufficient variety is afforded.

It is especially important that the pupils should themselves be made to teach; Fortius says, that he learned much from his teachers, more from his fellow-pupils, and most from his scholars.

The school is a manufactory of humanity.

The art of training up men is not a superficial one, but one of the profoundest secrets of nature and of our salvation. COMENIUS.

Be careful of your children and of their management. As soon as they begin to creep about and to walk, do not let them be idle.

Young people must have something to do, and it is impossible for them to be idle.

Their bodies must be kept in constant activity; for the mind is not yet able to perform its complete functions.

But in order that they may not occupy themselves in vicious or wicked ways, give them fixed hours for relaxation; and keep them all the rest of the time, as far as possible, at study or at work, even if of trifling usefulness, or not gainful to you.

It is sufficient profit if they are thus kept from having an opportunity for evil thoughts or words.

Therefore it is that children are nowhere better situated than at school or at church. MOSCHEROSCH.

Domestic government is the first of all; from which all governments and dominions take their origin.

If this root is not good, there can be neither good stem nor good fruit from it.

Kingdoms, moreover, are made up of single families.

Where fathers and mothers govern all at home and let their children's obstinacy prevail, neither city, market, village, country, principality nor kingdom can be governed well and peacefully. LUTHER.

Doctor Martin Luther wrote to his son as follows: Grace and peace in Christ, my dear little son. I see with pleasure that you learn well and pray constantly. Continue to do so, my son. When I come home, I will bring you a beautiful present.

I saw a beautiful pleasant garden, where many children were walking, with golden clothes, and eating beautiful apples under the trees, and pears and cherries and plums, and were singing and jumping and enjoying themselves; and they had beautiful little ponies with golden bridles and silver saddles.

Then I asked the man who owned the garden, what children these were. And he said, "These are the children who pray willingly, learn well and are good."

Then I said, "Dear man, I also have a son, called Hanschen Luther. May he not also come into the garden, so that he can eat such beautiful

apples and pears, and ride such pretty ponies, and play with these children?"

Then the man said, "If he prays willingly, and learns well and is good, then he may come into the garden, and Lippus and Jost too; and if they all come, they shall have fifes and drums and singing and all sorts of stringed instruments, and dance and shoot with little cross-bows."

And he showed me an open meadow in the garden, arranged for dancing; and there were hanging up many golden fifes and drums and silver cross-bows.

But this was quite early, and the children had not dined; so that I could not wait to see the dancing. So I said to the man, "Ah, my dear sir; I will go at once and write all this to my dear little son H nschen, so that he shall pray constantly and learn well and be diligent, so that he also may come into the garden; but he has an aunt Lehn , whom he must bring with him."

Then the man said, "It shall be so; go and write so to him."

Therefore, dear little son H nschen, learn and pray with good courage, and tell Lippus and Jost also, so that they may pray and learn also, and then you can all three be admitted into the garden.

And now you are commended to the Almighty God. And greet aunt Lehn ; and give her a kiss for me.

LUTHER.

As birds are born with the power of flying, horses with that of running, and beasts of prey with a furious courage, so is man born with the peculiar faculty of thinking, and of mental activity.

Therefore do we ascribe to the soul a heavenly origin.

Defective and under-witted minds, mental abortions and monstrosities, are as rare as bodily deformities.

Not one individual can be found who can not by labor be brought to be good for something.

Any one who considers this will as soon as he has children devote the utmost care to them.

QUINTILIAN.

The symptoms of children's inclinations are so slight and obscure, and the promises so uncertain and fallacious, that it is very hard to establish any solid judgment or conjecture upon them.

A tutor should have rather an elegant than a learned head, though both, if such a person can be found; but, however, manners and judgment should be preferred before reading.

'Tis the custom of schoolmasters to be eternally thundering in their pupils' ears, as they were pouring into a funnel. Now I would have a tutor to correct this error, and that, at the very first outset, he should, according to the capacity he has to deal with, put it to the test, permitting his pupil himself to taste and relish things, and of himself to choose and discern them, sometimes opening the way to him, and sometimes making him break the ice himself.

Socrates, and since him, Arcesilaus, made first their scholars speak, and then spoke to them.

'Tis the effect of a strong and well-tempered mind to know how to condescend to his pupil's puerile notions and to govern and direct them.

Let the master not only examine him about the bare words of his lesson, but also as to the sense and meaning of them, and let him judge of the profit he has made, not by the testimony of his memory, but by that of his understanding.

Let him make him put what he hath learned into a hundred several forms, and accommodate it to so many several subjects, to see if he yet rightly comprehend it, and has made it his own. 'Tis a sign of crudity and indigestion, to throw up what we have eaten in the same condition it

was swallowed down; the stomach has not performed its office, unless it hath altered the form and condition of what was committed to it to concoct.

Our minds work only upon trust, being bound and compelled to follow the appetite of another's fancy; enslaved and captive under the authority of another's instruction, we have been so subjected to the trammel that we have no free nor natural pace of our own.

Let the tutor make his pupil examine and thoroughly sift everything he reads, and lodge nothing in his head upon simple authority and upon trust.

Bees cull their several sweets from this flower and that blossom, here and there where they find them, but themselves after make the honey, which is all and purely their own, and no longer thyme and marjoram.

So the several fragments the pupil borrows from others he will transform and blend together to compile a work that shall be absolutely his own.

To know by rote is no knowledge.

Our pedagogues stick sentences full feathered in our memories, and there establish them like oracles, of which the very letters and syllables are the substance of the thing.

I could wish to know whether a dancing-master could have taught us to cut capers by only seeing them do it as these men pretend to inform our understandings, without ever setting them to work, and to make us judge and speak well, without exercising us in judging and speaking.

'Tis the general opinion of all, that children should not be brought up in their parents' lap. Their natural affection is apt to make the most discreet of them over-fond.

It is not enough to fortify a child's soul, you are also to make his sinews strong; for the soul will be oppressed, if not assisted by the body.

A boy must be broken in by the pain and hardship of severe exercise, to enable him to the pain and hardship of dislocations, colics, and cauteries.

Let conscience and virtue be eminently manifested in the pupil's speech. Make him understand that to acknowledge the error he shall discover in his own argument, though only found out by himself, is an effect of judgment and sincerity, which are the principal things he is to seek after, and that obstinacy and contention are common qualities, most appearing in and best becoming a mean soul.

Let him examine every man's talent; and something will be picked out of their discourse, whereof some use may be made at one time or another. By observing the graces and manners of all he sees, he will create to himself an emulation of the good, and a contempt of the bad.

Let an honest curiosity be planted in him to enquire after every thing, and whatever there is of rare and singular near the place where he shall reside, let him go and see it.

Methinks the first doctrine with which one should season his understanding, ought to be that which regulates his manners and his sense; that teaches him to know himself, and how both well to die and well to live.

How many have I seen in my time, totally brutified by an immoderate thirst after knowledge!

Our very exercises and recreations, running, wrestling, music, dancing, hunting, riding, and fencing, will prove to be a good part of our study.

I would have the outward behavior and mien, and the disposition of the limbs, formed at the same time with the mind.

It is not a soul, it is not a body, that we are training up; it is a man, and we ought not to divide him into two parts; and, as Plato says, we are not to fashion one without the other, but make them draw together like two horses harnessed to a coach.

As to the rest, this method of education ought to be carried on with a firm gentleness, quite contrary to the practice of our pedants, who, instead of tempting and alluring children to letters, present nothing before them but rods and ferules, horror and cruelty. Away with this violence! away with this compulsion! than which, I certainly believe nothing more dulls and degenerates a well-born nature.

If you would have a pupil fear shame and chastisement, do not harden him to them.

Some of our colleges are mere gaols, where imprisoned youths are taught to be debauched by being punished for it before they are so.

How much more decent would it be to see their classes strewed with leaves and flowers, than with bloody stumps of birch!

Were it left to my ordering, I should paint the school with pictures of joy and gladness, Flora and the graces, as the philosopher Speusippus did his.

A man should not so much repeat his lesson as practice it; let him repeat it in his actions.

MONTAIGNE.

Man is the product of his education.

At the moment when the human being first receives life and motion, he receives his first instruction.

It is from the mother that the child receives health or sickness.

Scarcely is he born before he signifies his existence by crying.

Hunger pains him, and he feels the necessity of opening his lips and drawing his nourishment from the bosom of his nurse.

When a few months have passed, his looks become more decided and his limbs stronger; and he becomes by little and little more capable of receiving impressions.

The senses of sight, hearing, taste, feeling and smell, develop more and more.

All the objects of nature around him operate upon him, and impress ideas upon his memory.

All the different susceptibilities which agitate during this period, are his instructors.

HELVETIUS.

It is easy to see how dangerous and injurious an unnatural education may be, by forestalling the systematical and appropriate course of nature, and to prevent such a bringing up as is shown by experience to be the only mode of attaining to a satisfactory standard of morality.

But a system of education, directed only to the purpose of making man independent, instead of laying heavy chains upon him—would not such a system lead towards true perfection, and thus towards securing the happiness of our race?

FORSTER.

I would put myself in the place of a father who has a son to educate.

My first care should be, to make him firm and strong in body; and also to strengthen his mind, according to the principles of the stoics.

It is easy to form the character of a young child in any way desired; but extremely difficult to change a character once formed and established.

But since nothing is more fit to accustom a child to be honorable, and reasonable, and to control his passions, than example and company, therefore I must take the utmost pains myself to furnish my son such an example and such company as I wish him to be formed by.

Mere association with a virtuous man will always have more influence upon the heart, than all possible moral precepts and rules.

WEIKARD.

The domestic relations of man are the earliest, and most important, in nature.

Therefore art thou, parental home, the foundation of all the purely natural education of man.

Parental home, thou school of manners and of the State!

First, O man, thou art a child; and afterwards a pupil in thy vocation!

Childish virtue is the blessing of thy days of study, and the first training of thy powers to the enjoyment of all the blessings of life.

He who varies from this natural order, and makes unnaturally specific separate courses of education for politics, professions, authority or serving, directs humanity aside from the enjoyment of the most natural blessings, into a rocky sea.

Do you not see, O men—do you not feel, sons of earth—how your higher classes are destroying their innate powers by their education?

Dost thou not see, humanity, how their departure from the wise order of nature, brings emptiness and fatal curses upon them, and downward from them upon their people?

Dost thou not feel, O earth, how the human race departs from the true blessedness of its domestic relations, and betakes itself in all directions to barbarous and silly theatrical performances, to see their own wisdom mirrored, and to tickle their own vanity?

PESTALOZZI.

We recognize clearly enough such superiorities as ancient Greece and Rome possessed over us, in internal arrangements, manners and customs; but there is no one who seeks to bring them into practice.

It was the similarly powerful and universal education of body and mind, that elevated these nations so high above us, notwithstanding that we boast of possessing the highest civilization.

We say over their words after them, but where are the deeds?

Our so-called gymnasia are now exactly as they long have been; in a state of what is taught in them about the Greeks and Romans, and which is a real satire on both.

But these people are no longer among the nations; and those who claim descent from these ancient heroes, are degenerate, and far beneath their courage and their power.

But is this good reason for neglecting what we admit to be valuable?

And why do we imitate words, but not actions? The Greeks and Romans were great in both; but with them the words were the consequence of the deeds.

They had themselves heard the roaring of the ocean and the neighing of horses; they had themselves appeared in the rage of battle, as fellow soldiers, brave defenders of freedom.

It must have been easy for them to think strong and great thoughts.

The education of their minds culminated in that of their bodies.

TETZNER.

With speaking, children commence a new period of life. It takes the place of crying.

In what nature indicates as adapted to bodily development, children should have the utmost possible freedom; as in running, jumping, &c.

Nothing should be yielded to ill-tempered crying.

Neither however should the children be taught to make demands in a polite style.

Not everything which the child demands should be granted him. Otherwise his requirements would have no limits; no one but God himself could satisfy them.

Grown people should no more tyrannize over children, and thus intimidate them, than children should be permitted to command.

Children should not be reasoned with, as Mr. Locke recommends; for the understanding is the last of all the mental powers to develop.

If children understood reasonable considerations, they would not need to be educated.

And by speaking to them from an early period in terms which they do not understand, they become accustomed to be contented with mere words, to criticise everything that is said to them, to think themselves as wise as their teachers, to be disputatious and obstinate, and to do what it is fancied they are doing on reasonable principles, merely out of gluttony or fear or vanity, which motives it is necessary to call into activity as auxiliaries.

Children should be permitted to be children.

By using a reversed order of teaching, we obtain only premature and flavorless fruits, which soon perish; we shall have young doctors and old children. You can as easily bring a child to be four feet high, as to have judgment in his tenth year.

Yield to them with pleasure, and deny them with reluctance.

But when you deny them, let it not be in an unpleasant manner. And let no persistency induce you to withdraw your negative. In this particular there is no middle path.

Either nothing at all, or the most absolute and unconditional obedience, should be required of children.

It is the very worst sort of education to let a child be wavering between his will and your own, and to be incessantly disputing with him, which shall be master.

It is difficult and perhaps impossible to guard children completely against bad influences, even in the country.

The bodies of pupils should be exercised in all ways. It is a great error to suppose that such a course interferes with mental training.

The senses are the first powers to develop in a child; and their perfection should therefore be first attended to.

Let them measure, count, weigh and compare.

The blind have the finest sense of touch.

Seeing children may cultivate their senses to an equal extent by exercising and playing in the dark.

The sense of vision often errs, and leads to over hasty judgments.

Children's plays should exercise not only their eyes, but all their organs.

Wo to boys who have no longer any respect for authority; who are destitute of respect and love for their parents and teachers!

Geographical instruction should begin at the house and the locality of residence.

The pupil should draw maps of the neighborhood, so as to learn how maps are made, and what they represent.

In investigating natural laws, always begin with the most common and obvious phenomena.

Let the child learn what is appropriate for his years; not precociously, what he ought to learn afterwards.

What it requires an appeal to a boy's vanity to induce him to learn, he had better not learn at all.

Out of books, we learn to talk of what we do not understand.

The teacher should, with his pupil, attend workshops; and should permit the latter to work with his own hands; which will enable him to understand things better than explaining them.

Educating men for one particular condition, makes them unfit for and unsuccessful in any other, in case of a change in their circumstances.

The great secret of education is, so to order it as that mental and bodily exercises shall serve as recreations, each from the other.

After the body and the soul of the pupil have first been trained, then his understanding and his judgment should be trained.

Pupils should be warned not to mistake mere brilliant appearances for true and desirable happiness.

ROUSSEAU.

How important is it, above all things, that every father and every mother should care for the bodily health of their children! since their minds must, without a sound and perfect bodily instrument, be condemned to misery.

ZSCHOKKE.

All children, even the best, have their periods of energy and of fatigue; and the teacher needs to study the symptoms of such changes, to avoid greatly abusing the child's mental constitution.

To recite and recite continually, and to solve problems within a specified time, places an unnatural constraint upon the freedom of the impulses and movements of the mind.

It is a remarkable and beautiful thing for a boy to apply himself with all the force of his being to the work required of him.

But he is also in need of rest, of solitude, where he may on quiet holidays collect his thoughts, and feel himself relieved of any purpose whatever, even of his own childish whims.

Moreover, there is both in men and children, a limit to the power of the susceptibilities both to things new and old.

Periods of rest are necessary, so that body and mind may recover their exhausted strength.

During such periods the pupil also really learns; for unknown to himself he is recognizing what is before him; and such new activities of the thoughts are more efficient in producing new combinations of ideas than all the teacher's art.

Plato's principle, that "the gods are the friends of amusement," should be a motto over the door of every home; and Anaxagoras' testamentary provision that "on the day of his death the children should play," has a deep significance.

An unlimited series of ideas, without reflection, and not restricted in purpose, beginning, progress or end—the characteristics which distinguish play from work—is as natural and necessary to a child's nature as breathing.

Those are wise parents who play much with their children.

The greater the mental activity, the more and more enjoyed is the playing.

But there should be order and proportion in all things.

The most simple, formless, and modifiable material is best for playthings.

There is great significance in children's playing.

Show me how you play, and I will show you what you will be.

STOY.

How is it that "gymnasium" now only means a place where young people sit still; where they deteriorate their bodies? The name means a place for training the body. With the Greeks there were deeds; with us, only talking about them.

GOETHE.

There must be more definite and complete psychological and physiological investigations of the relation between the labor and the recreation of young persons; for it is evident that a natural impulse inclines children to play and to the development of their bodies, as their most proper destination.

SCHRODER.

"The profit of study," says Heumius, "depends upon the intervals which are devoted to recreation."

It is only in some degree of quiet that the mind can digest the impressions made upon the memory or the fancy, and can make them its nutriment.

Incessant cramming only deadens and tends to stupidity; and it is probably psychologically true, as Lorinser quotes from H. Horst, "That in order to learn with pleasure and success, only a little must be heard or read."

How much more influential, even for a whole life, is often a single word spoken at a fortunate moment, than whole years of teaching!

Why is it that mature minds learn in a short time, by much less reading or teaching, quite as much as one who does nothing but hear instruction and study day after day?

Therefore it seems to be real barbarism and misunderstanding of the youthful character, to believe as the directors of some gymnasia do, that all depends upon incessant stimulation, inspection and manipulation by the teachers, and upon not waiting a single minute of the hour, upon going through the whole lesson without once taking breath, upon a state of excitement, wearing, stupifying and loathsome both to teachers and pupils.

Each school ought to have roofed and open play and gymnastic grounds, yards, gardens and halls, and after every lesson the pupils should be obliged to go out of the schoolroom—for our precocious and self-isolating and overwise young people are partly too lazy and partly too proud, to play—and run about a quarter of an hour in the fresh air, than to return, strengthened and refreshed, to their labor.

Whatever is thus wanted in time, will be richly compensated by the greater vigor and activity of the school.

ROTHECK AND WELCKER. *State Lexicon.*

Education should at first be more negative than positive in its operation.

It should especially seek to remove the hindrances to free self-direction; and should aim to render the will free, so that this free self-direction may be guided towards reasonable objects.

The educator should not so much form and instill, as develop, and call out.

C. F. MICHAELIS.

The young mind should be nourished with simple and grateful food, and not too copious. It should be little exercised until its nerves and muscles show themselves, and even then rather for air than any thing else. Study is the bane of childhood, the aliment of youth, the indulgence of manhood, and the restoration of age.

Before that age [five] how many seeds are sown, which future years and distant ones, mature successively ! How much fondness, how much generosity, what hosts of other virtues, courage, constancy, patriotism, spring into the father's heart from the cradle of the child ! And does never the fear come over a man that what is most precious to him upon earth is left in careless or perfidious, in unsafe or unworthy, hands ?

WALTER SAVAGE LANDOR. *Pericles and Aspasia.*

The recollection of a thoroughly happy childhood (other advantages not wanting) is the very best preparation, moral and intellectual, with which to encounter the duties and cares of real life. A sunshiny childhood is an auspicious inheritance, with which, as a fund, to commence trading in practical wisdom and active goodness. It is a great thing only to have known, by experience, that tranquil, temperate felicity is actually attainable on earth ; and we should think so, if we knew how many have pursued a reckless course, because, or chiefly because, they early learned to think of *Happiness* as a chimera, and believed momentary gratifications to be the only substitute placed within the reach of man. Practical happiness is much oftener wantonly thrown away, than really snatched from us ; but it is the most likely to be pursued, overtaken, and husbanded, by those who already, and during some considerable period of their lives, have been happy. To have known nothing but misery is the most portentous condition under which human nature can start on its course.

ISAAC TAYLOR. *Home Education.*

What would be the condition of all our families, of all our children, if religious fathers and religious mothers were to teach their sons and daughters no religious tenets till they were eighteen ? What would become of their morals, their character, their purity of heart and life, their hope for time and eternity ? What would become of all those thousand ties of sweetness, benevolence, love, and Christian feeling, that now render our young men and young maidens like comely plants growing up by a streamlet's side ; the graces and the grace of opening manhood, of blossoming womanhood ? What would become of all that now renders the social circle lovely and beloved ? What would become of society itself ? How could it exist ? And is that to be considered a charity which strikes at the soul of all this ; which subverts all the excellence and the charms of social life ; which tends to destroy the very foundation and framework of society, both in its practices and in its opinions ; which subverts the whole decency, the whole morality, as well as the whole Christianity and government of society ? No, sir ! No, sir !

DANIEL WEBSTER. *Girard's Will Case.*

VII. PLAYS, PASTIMES, AND HOLIDAYS OF CHILDREN.

BY HORACE BUSHNELL, D. D.

[We are firm believers in the efficacy of play—in the ring of happy voices of boys and girls engaged in their innocent sports—in the rights of children to significant and frequent holidays—and that all needless restrictions, which limit or repress the natural outburst of youthful spirits, beyond the necessities of the child's true development, spiritual as well as physical and intellectual, should be discarded from the home, the play-place, and the school.

We have nowhere met a more acceptable embodiment of our views than in a chapter of Dr. Bushnell's *Christian Nurture*, entitled "Plays and Pastimes, Holidays and Sundays," a portion of which we transfer to our pages.]

"Having set the young of all the animal races a playing, and made their beginning an age of frisking life and joyous gambol, it would be singular if God had made the young of humanity an exception; or if, having put the same sportive instinct in their make, he should restrict them always to a carefully practical and sober mood. What indeed does he permit us to see, in the universal mirth-time which is given to be the beginning of every creature's life, but that he has, Himself, a certain pleasure in their exuberant life, and regards their gambols with a fatherly satisfaction? What, too, shall we judge, but that as all instincts are inserted for that to which they tend, so this instinct of play in children is itself an appointment of play?

Besides, there is a very sublime reason for the play-state of childhood which respects the moral and religious well-being of manhood, and makes it important that we should have our first chapter of life in this key. Play is the symbol and interpreter of liberty, that is, Christian liberty; and no one could ever sufficiently conceive the state of free impulse and the joy there is in it, save by means of this unconstrained, always pleasurable activity, that we call the play of children. Play wants no motive but play; and so true goodness, when it is ripe in the soul and is become a complete inspiration there, will ask no motive but to be good. Therefore God has pur-

posely set the beginning of the natural life in a mood that foreshadows the last and highest chapter of immortal character. Just as he has made hunger in the body to represent hunger in the soul, thirst in the body to represent thirst in the soul; what is sweet, bitter, sour in the taste to represent what is sweet, bitter, sour in the soul's feeling; lameness to represent the hobbling of false principle; the fierce combustion of heat to represent the rage of angry passion; all things natural to represent all things spiritual,—so he prepares, at the very beginning of our life, in the free self-impulsion of play, that which is to foreshadow the glorious liberty of the soul's ripe order and attainment in good. One is the paradise of nature behind us, the other the paradise of grace before us; and the recollection of one images to us, and stimulates us in, the pursuit of the other.

Holding this conception of the uses, and the very great importance of play, as a natural interpreter of what is highest and best in the grand problem of our life itself, we are led, on sober and even religious conviction, to hold in high estimation the age of play. As play is the forerunner of religion, so religion is to be the friend of play; to love its free motion, its happy scenes, its voices of glee, and never, by any needless austerities of control, seek to hamper and shorten its pleasures. Any sort of piety or supposed piety that is jealous of the plays and bounding activities of childish life, is a character of hardness and severity that has, so far at least, but a very questionable agreement with God's more genial and fatherly feeling. One of the first duties of a genuinely Christian parent is, to show a generous sympathy with the plays of his children; providing playthings and means of play, giving them play-times, inviting suitable companions for them, and requiring them to have it as one of their pleasures, to keep such companions entertained in their plays, instead of playing always for their own mere self-pleasing. Sometimes, too, the parent, having a hearty interest in the plays of his children, will drop out for the time the sense of his years, and go into the frolic of their mood with them. They will enjoy no other play-time so much as that, and it will have the effect to make the authority so far unbent, just as much stronger and more welcome, as it has brought itself closer to them, and given them a more complete show of sympathy.

On the same principle, it has an excellent effect to make much of the birthdays of children, because it shows them, little and dependent as they are, to be held in so much greater estimation in the house. When they have each their own day, when that day is

so remembered and observed as to indicate a real and felt interest in it by all, then the home in which they are so cherished is proportionally endeared to feeling, and what has magnified them they are ready to magnify.

On the same principle, too, public days and festivals, those of the school, those of the state, and those of religion, are to be looked upon with favor, as times in which they are to be gladdened by the shows, and plays, and simple pleasures appropriate to the occasions; care being only taken to put them in no connection with vice, or any possible excess. Let them see what is to be seen, enjoy what is to be enjoyed, and shun with just so much greater sensibility whatever is loose, or wild, or wicked.

Religious festivals have a peculiar value to children; such I mean as the festivals of Thanksgiving and Christmas—one a festival of thanks for the benefits of Providence, the other for the benefits of that supernatural providence which has given the world a Saviour and a salvation. Both are religious, and, in that fact, have their value; for nothing will go farther to remove the annoyance of a continual, unsparing, dry restraint upon the soul of childhood, and produce a feeling, as respects religion, of its real genial character, than to have it bring its festive and joyously commemorative days. One of the great difficulties in a properly religious nurture is, that religion has to open its approaches to the soul, and make its beginnings in the shape of law; to say God requires of you this, forbids you in that, makes it your life to be set in all ways of obedience. It takes on thus a guise of constraint, and so far wears a repulsive look; but if it can show how genial it is, how truly it loves even childish enjoyment, by gilding for it days of joy and festive celebrations, then the severities of law and responsible obedience take on themselves a look of benignity, and it begins to be felt that God commands us, not to cripple us, but to keep us safe and lead us into good. Such days, it is true, may be greatly abused by what is really unchristian; what is sensual and low, and very close to vice itself; and it is much to be regretted that the Christmas festival, otherwise so beautiful and appropriate, taken as a Christian commemoration of the greatest fact of the world's history, has been so commonly associated with traditional looseness and excess. The friends of such a day can not do it any so great honor, as to clear it entirely of the excess and profane jollity by which it was made to commemorate any thing and every thing but Christ, that, setting it in character as a genuine religious festivity, they may give it to all friends of Christ as a day of universal observance.

Happily there is now such an abundance of games and plays prepared for the entertainment of children, that there is no need of allowing them in any that stand associated with vice. Those plays are generally to be most favored that are to be had only in the open air, and in forms of exercise that give sprightliness and robustness to the body. At the same time, there needs to be a preparation of devices for the entertainment of children indoors in the evening; for the prophet did not give it as a picture of the happy days of Jerusalem, that the streets of the city should be full of boys and girls playing there in the evening, or into the night, away from their parents and the supervision of their home. There is any thing signified in that but happiness and public well-being. Christian fathers and mothers will never suffer their children to be out in the public streets in the evening, unless they are themselves too loose and self-indulgent to assume that care of the conduct and the hours of their children, which is imposed upon them by their parental responsibilities. In country places, far removed from all the haunts of vice, and in neighborhoods where there are no vicious children, it might work no injury if boys were allowed to be out, now and then, in their coasting or skating parties in the evening. But the better rule in large towns, the absolute rule, having no exceptions as regards very young children, will be that they are never to be out or away from home in the evening. Meantime, it will be the duty of the parents, and a kind of study especially of the mother, to find methods of making the house no mere prison, but a place of attraction, and of always cheerful and pleasant society. She will provide books that will feed their intelligence and exercise their tastes, pictures, games, diversions, plays; set them to inventing such themselves, teaching them how to carry on their little society, in the playful turns of good nature and fun, by which they stimulate and quicken each other; drilling them in music, and settling them forward in it by such beginnings that they will shortly be found exercising and training each other; shedding over all the play, infusing into all the glee, a certain sober and thoughtful look of character and principle, so that no overgrown appetite for sport may render violent pleasures necessary, but that small, and gentle, and easy, and almost sober pleasures, may suffice; becoming, at last, even most satisfactory. Here is the field of the mother's greatest art, viz.: in the finding how to make a happy and good evening for her children. Here it is that the lax, faithless, worthless mother most entirely fails; here the good and wise mother wins her best successes.

Meantime some care must be exercised, that the religious life

itself be never set in an attitude of repugnance to the plays of childhood. There must be no attempt to raise a conscience against play. Any such religion will certainly go to the wall; any such conscience will be certainly trampled, and things innocent will be done as if they were crimes; done with a guilty feeling; done with as bad effects every way, on the character, as if they were really the worst things. Nothing is more cruel than to throw a child into the attitude of conflict with God and his conscience, by raising a false conscience against that which both God and nature approve. It is nothing less than making a gratuitous loss of religion, required by no terms of reason, justified by no principle, even of Christian sacrifice itself.

Suppose, for example, that a child has begun to show many pleasant evidences of love to God and all good things, but that he is eager still in play, or sometimes gets quite wild in the excitement of it. If, at such a time, it is sprung upon him, as a conclusion, that he does not truly love God, because he is so much taken by the excitements of play, he will thus be discouraged without reason, in all his confidences of piety, and it will be strange, if by-and-bye he does not begin to show a settled aversion to religious things. How can he do less, when he is compelled to see it, as in conflict with all the most innocent and most truly natural instincts of his age? Or, to make the case more plain, drawing the question to a closer point, suppose the child, having so many evidences of piety in his dispositions, to be found at some kind of play in the family prayers, or that he rushes out from such prayers, in a manner that indicates eagerness and an emancipated feeling, or that he sometimes shows uneasiness in the hours of public worship on Sunday, or gives manifest tokens, in the morning, of a desire to escape from it, is it then to be set down, in your parental remonstrances with him, that he has, of course, no love to God, or the things of religion? By no means. How often does the adult Christian feel even a disinclination to such things; how often hurry away from his formal prayer, that he may get into his shop, or his field, or into some negotiation that has haunted his sleep in the night; how often sit through sermons with his mind on the game of politics, on the investment made or to be made; on his journey, or his mortgage, or the rivals he has in his trade? Is it worse for a child to be after his plays, with only the same kind of eagerness? Doubtless all such engrossments of the soul, whether of one kind or the other, are to be taken as bad signs, and, as far as they go, to be allowed their due weight. But which is worse and more fatal, the child's

undue possession by the spirit of play, or the man's by the spirit of gain—the honest, artless, letting forth of nature by one, or the deliberate, studied, scheming of the other—it is not difficult, I think, to guess. No matter if the latter is more sober and thoughtful in the mood, observing a better show of gravity. For just that reason he is only to be judged the more harshly. If then we can bear with adult Christians, who are much in the world, and, forgetting themselves often, fall into moods of real disinclination to their duty, are we to set it down as some total evidence against the piety of a child, that, by mere exuberance of life, he is occasionally hurried away from sacred things, into matters of play? Nothing is more unjust. Why should we require it of a child to be perfect, when we do not require it of a man? And if we tolerate inconstancy of feeling or impulse in one, why not a much less worldly and deliberate inconstancy in the other?

Thus far we speak for the side of play, showing how far off it is from the purpose of religion to take away, or suppress, the innocent plays of childhood; how ready it is, on the other hand, to foster them and give them sympathy. But it is not the whole of life, even to a child, to be indulged in play. There is such a thing as order, no less than such a thing as liberty; and the process of adjustment between these two contending powers, begins at a very early date. Under the law of the house, of the school, and of God, the mere play impulse begins very soon to be tempered and moderated by duty, and the problem is to make divine order itself, at last, a state of liberty analogous to the state of play, as already suggested. But the law that is to fashion such order will be first felt as a restriction; then, when it becomes the spirit of the life, the order itself will be liberty. There is no such thing, therefore, as a possibility to childhood of unrestricted play. Restriction must be encountered as often as the order of the house demands it, then as often as the school demands it, then as often as the duties of religion demand it. Though such restrictions are never to be looked upon as hostile to the child's play, but only as terms that are really necessary for his training into the organic relations under which he is born, best for his character, and even best for the enjoyments of his play itself. Otherwise he would either become sated by it in a short time, or his appetite for it would become so egregiously overgrown, that no possible devices or means could be invented to keep pace with it. Besides, a child, thus put to nothing but mere play, would very soon grow into such lightness and dissipation of feeling,



PLAYS, PASTIMES, AND HOLIDAYS OF CHILDREN.

as to be mentally addled, and would so be wholly incapacitated for any of the more sober and manly offices of life.

Here, then, begins a process of training into moral order, which, without wishing to be any restriction upon play, is yet of necessity such a restriction. The child is required to conform his conduct, including his plays, to the peace of the house, to the conditions of sick persons in it, to the hours and times and general comfort of other inmates older than himself. Errands are put upon him that require him to forego his pleasures. When he is old enough, he is set to works of industry, it may be, that he may contribute something to the general benefit. By all which restrictions of play, he is only prepared to enjoy his pastimes and plays the more. The restrictions he will doubtless feel, at the time, and may be somewhat restive under them; but when he is thoroughly brought into the order of the house, and is set in the habit of serving it, as an interest of his own, then he will obey, contrive, and work, and even drudge himself to serve it, constrained by no motive but the service itself.

In the same manner it will be laid upon him to be at his place in the school, to be punctual to his times, to miss no lesson, to hold his mind to his studies by close, unflinching application, even though it cost him a loss of just that liberty in play that he would most like, and take it as the very bliss of his good fortune to have. Restricted thus by the order of the school, he will only enjoy his play-times the more, and finally will come to the enjoyment of study itself for its own sake.

And so it will be in religion. There must, of course, be in it, what may be called restrictions upon children. All law is felt as restriction at the first, but it will not be that God makes war on their innocent plays; they only need as much, to be established in right conduct, well-doing, and piety, as to have their indulgence in such pleasures. If God will take them away from all misrule and wretchedness, and will bring them into all best conditions of blessedness and peace, and even of liberty itself, he must put them under his commandments, train them into his divine will, and settle them in his own perfect order; and if he is obliged, in such a design, to infringe here and there upon their plays, it is not because he likes the infringement, but only that he seeks the higher bliss of character for them. Thus when a little child is required to say his prayers and retire at the proper time for sleep, there is nothing to complain of in that kind of constraint, even though he wants to continue his play; for the thing required is plainly for his good—

this for the double reason that it trains him toward obedience to God, and a life in heaven's order, and because it even gives him a better appetite, and a fuller fund of vigor for, his play itself. And so it is universally; no constraint is to be blamed as infringement on his happiness, or a harsh severity against his pleasures, when, in fact, all highest happiness and widest range of liberty depend on the requirement imposed.

There is no pretext of authority in the Scripture for making the Lord's day, or Sunday, a Jewish day to children. And those parents who make it a point of fidelity to lay it on their children, according to the strict police regulations of the Jewish code, would be much more orthodox, if they went farther back, and took up conceptions of the day some thousands of years older. When they assume that every thing which can be called play in a very young child is wrong, or an offense against religion, they try, in fact, to make Galatians of their children; incurring a much harsher, Christian rebuke, than if they only turned to the beggarly elements themselves, and laid their own souls under the bondage. What can a poor child do, that is cut off thus, for a whole twenty-four hours, from any right to vent his exuberant feeling—impounded, strictly, in the house and shut up to catechism; or taken to church, there to fold his hands and sit out the long solemnities of the worship, and what to him is the mysterious lingo of preaching; then taken home again to struggle with the pent up fires, waiting in dreary and forlorn vacancy, till what are called the mercies of the day are over? What conception does he get of religion, by such kind of treatment, but that it comes to the world as foe to every bright thing in it; a burden, a weariness, a tariff, on the other six days of life?

But there comes in, here, a grand scripture reason for some sort of restriction, viz.: that restriction is the necessary first stage of spiritual training every where. Instead of rushing into the conclusion, therefore, as many parents do, that all religious observances which create a feeling of restraint, or become at all irksome to children, are of course hurtful, and raise a prejudice in their minds against religion, the Scripture boldly asserts the fact that all law begins to be felt a bondage. Law and gospel have a natural relationship, and they are bound together every where, by a firm interior necessity. It is so in the family, in the school, and in religion. The law state is always felt to be a bondage, and the restriction is irksome. By-and-bye, the goodness of the law, and of them by whom it is administered, is fully discovered, and the obedience that began a restriction merges in liberty. The parents are obeyed with

such care, as anticipates even their wishes; the lesson, that was a task, is succeeded by that free application which sacrifices even health and life to the eagerness of study; and so the law of God, that was originally felt only in the friction, rubbed in by that friction, is finally melted into the heart by the cross of Jesus, and becomes the soul's liberty itself. It is no fault then of a Sunday that it is felt, in some proper degree, as a restriction; or even that the day is sometimes a little irksome to the extreme restiveness of children. All restraint, whether in the family or the school, is likely to be somewhat irksome at the first. The untamed will, the wild impulse of nature, always begins to feel even principle itself in that way of collision with it. Nor is it any fault of the Sunday observance, that it has, to us, the character of an institute. If it were a mere law of natural morality, we might observe it without any thought of God's will; but if we receive it as an institute, we acknowledge God's will in it; and nothing has a more wholesome effect on just this account, than the being trained to an habitual surrender to what God has confessedly enjoined or instituted by his will. It is the acknowledging of his pure authority, and is all the more beneficial, when the authority is felt in a somewhat restrictive way. The transition, too, is easy from this to a belief in the supernatural facts of Christianity. The conscience and life is already configured to such faith; for whatever is accepted as an institution of God, is accepted as the supernatural injunction of his will.

The flash of judgments, therefore, of many, in respect to the observance of Sunday, are not to be hastily accepted. We are not to read the prophet, as if promising that the streets of the city shall be full of boys and girls, on the Lord's holy day, playing in the streets thereof; or as if that kind of license were necessary to clear the irksomeness of an oppressive observance; or as if the power of religion were to be increased by removing every thing in it, which disturbs the natural impatience of restraint. Some child that was, for example, now grown up to be a man—a profligate it may be, a sworn infidel, a hater of all religion—laughs at the pious Sundays that his godly mother made him keep, and testifies to the bitter annoyance he suffered under the irksome and superstitious restrictions thus imposed on his childish liberty. Whereupon some liberalist or hasty and superficial disciple, immediately infers that all Sunday restrictions are injurious, and only raise a hostile feeling in the child toward all religion. Whereas it may be, in the example cited, for such are not very infrequent, that the child was never accustomed to restriction at any other time as he ought to have been,

or that his mother was too self-indulgent to exert herself in any such way for his religious entertainment, as to respite and soften the strictness of the Sunday observance. Perhaps the requirement was really too restrictive, or perhaps it was so little and so unevenly restrictive, as to make it only the more annoying. Be it as it may, in this or any particular example, a true Sunday observance needs to be restrictive in a certain degree, and needs to be felt in that way, in order to its real benefit. What is wanted is to have God's will felt in it, and then to have it reverently and willingly accepted. A Sunday turned into a holiday, to avoid the supposed evil of restrictiveness, would be destitute of religious value for just that reason.

The true principle of Sunday observance, then, appears to be this: that the child is to feel the day as a restriction, and is to have so much done to excite interest, and mitigate the severities of restriction, that he will also feel the true benignity of God in the day, and learn to have it as one of his enjoyments. When the child is very young, or just passing out of infancy, it will be enough that, with some simple teaching about God and his day, a part of his more noisy playthings are taken away; or, what is better than this, that he have a distinct Sunday set of playthings; such as may represent points of religious history, or associate religious ideas, abundance of which can be selected from any variety store without difficulty; then, as the child advances in age, so as to take the full meaning of language, or so as to be able to read, the playthings of the hands and eyes will be substituted by the playthings of the mind; which also will be such as connect some kind of religious interest—books and pictures relating to scripture subjects, a practice in the learning and beginning to sing Christian hymns, conversations about God and Christ, such as bring out the beauty of God's feeling and character, and present him, not so much as a frightful, but more as a friendly and attractive being; for the child who is only scared by God's terrors and severities, will very soon lose out all proportional conceptions of him, and will want to hear of him no more. Even the Sunday itself that only brings him to mind will, for just that reason, become a burden. The endeavor should be to excite a welcome interest in the day and the subjects it recalls. * * Under such a practice, religion, or faith, will be woven into the whole texture of the family life, and the house will become a truly Christian home. Nothing will be remembered so fondly, or steal upon the soul with such a gladsome, yet sacred, feeling afterward, as the recollection of these dear Sundays, when God's light shone so brightly into the house, and made a holiday for childhood so nearly divine.

LORD BACON AND ARCHBISHOP WHATELY ON STUDIES.

BACON'S ESSAY L. OF STUDIES.

STUDIES serve for delight, for ornament, and for ability. Their chief use for delight is in privateness,¹ and retiring; for ornament, is in discourse; and for ability, is in the judgment and disposition of business; for, expert men can execute, and perhaps judge of particulars, one by one; but the general counsels, and the plots and marshaling of affairs, come best from those that are learned. To spend too much time in studies, is sloth; to use them too much for ornament, is affectation; to make² judgment wholly by their rules, is the humor of a scholar; they perfect nature, and are perfected by experience—for natural abilities are like natural plants, that need pruning by study; and studies themselves do give forth directions too much at large, except they be bounded in by experience. Crafty men condemn studies, simple men admire them, and wise men use them, for they teach not their own use; but that is a wisdom without them, and above them, won by observation. Read not to contradict and confute, nor to believe and take for granted, nor to find talk and discourse, but to weigh and consider. Some books are to be tasted, others to be swallowed, and some few to be chewed and digested; that is, some books are to be read only in parts; others to be read, but not curiously;³ and some few to be read wholly, and with diligence and attention. Some books also may be read by deputy, and extracts made of them by others; but that would⁴ be only in the less important arguments, and the meaner sort of books; else distilled books are, like common distilled waters, flashy things. Reading maketh a full man, conference a ready man, and writing an exact man; and, therefore, if a man write little, he had need have a great memory; if he confer little, he had need have a present wit; and if he read little, he had need have much cunning, to seem to know that⁵ he doth not. Histories make men wise; poets, witty; the mathematics, subtle; natural philosophy, deep; moral, grave; logic and rhetoric, able to contend: 'Abeunt studia in mores'⁶—nay, there is no stond⁷ or impediment in the wit, but may be wrought⁸

¹ Privateness. Privacy.

² Make. Give.

³ Curiously. Attentively. "At first I thought there had been no light reflected from the water. but observing it more curiously, I saw within it several spots which appeared darker than the rest."—*Sir Isaac Newton*.

⁴ Would. Should.

⁵ That. What.

⁶ "Manners are influenced by studies."

⁷ Stond. Hindrances.

⁸ Wrought. Worked. "Who, through faith, wrought righteousness."—*Heb.* xi 32.

"How great is Thy goodness, which Thou hast wrought for them that trust in Thee!"—*Psalms* cxxi. 19.

out by fit studies, like as diseases of the body may have appropriate exercises—bowling is good for the stone and reins,¹ shooting for the lungs and breast, gentle walking for the stomach, riding for the head, and the like; so, if a man's wits be wandering, let him study the mathematics, for in demonstrations, if his wit be called away never so little, he must begin again; if his wit be not apt to distinguish or find differences,² let him study the schoolmen, for they are 'cymini sectores';³ if he be not apt to beat over matters, and to call upon one thing to prove and illustrate another, let him study the lawyers' cases—so every defect of the mind may have a special receipt.

ANTITHETA ON STUDIES.

PRO.

"*LECTIO EST CONVERSATIO CUM PRUDENTIBUS; ACTIO FERE CUM STULTIS.*"

"*In reading, we hold converse with the wise; in the business of life, generally with the foolish.*"

"*Non inutiles scientiæ existimandas sunt, quarum in se nullus est usus, si ingenia acuant, et ordinent.*"

"*We should not consider even those sciences which have no actual practical application in themselves, as without value, if they sharpen and train the intellect.*"

CONTRA.

"*Quæ unquam ars docuit tempestivum artis usum?*"

"*What art has ever taught us the suitable use of an art?*"

"*Artis sapissime ineptus usus est, non sit nullus.*"

"*A branch of knowledge is often put to an improper use, for fear of its being idle.*"

ANNOTATIONS BY ARCHBISHOP WHATELY.

"Crafty men condemn studies."

This contempt, whether of crafty men or narrow-minded men, often finds its expression in the word "smattering;" and the couplet is become almost a proverb—

"A little learning is a dangerous thing;

Drink deep, or taste not the Pierian spring."

But the poet's remedies for the dangers of a little learning are both of them impossible. None can "drink deep" enough to be, in truth, anything more than very superficial; and every human being, that is not a downright idiot, must taste.

It is plainly impossible that any man should acquire a knowledge of all that is to be known, on all subjects. But is it then meant that, on each particular subject on which he does learn anything at all, he should be perfectly well informed? Here it may fairly be asked, what is the "well?"—how much knowledge is to be called "little" or "much?" For, in many departments, the very utmost that had been acquired by the greatest proficient, a century and a half back, falls short of what is familiar to many a boarding-school miss now. And it is likely that our posterity, a century and a half hence, will in many things be just as much

¹ Reins. *Kidneys; inward parts.* "Whom I shall see for myself, though my reins be consumed within me."—Job xix. 27.

² Differences. *Distinctions.*

³ Splitters of cummin." Vid. A. L. I. vii. 7.

in advance of us. And in most subjects, the utmost knowledge that any man can attain to, is but "a little learning" in comparison of what he remains ignorant of. The view resembles that of an American forest, in which, the mere trees a man cuts down, the greater is the expanse of wood he sees around him.

But supposing you define the "much" and the "little" with reference to the existing state of knowledge in the present age and country, would any one seriously advise that those who are not proficient in astronomy should remain ignorant whether the earth moves or the sun?—that unless you are complete master of agriculture, as far as it is at present understood, there is no good in your knowing wheat from barley?—that unless you are such a Grecian as Porson, you had better not learn to construe the Greek Testament?

The other recommendation of the poet, "taste not"—that is to say, have no learning—is equally impossible. The truth is, every body has, and every body ought to have, a slight and superficial knowledge—a "smattering," if you will—of more subjects than it is possible for the most diligent student to acquire thoroughly. It is very possible, and also very useful, to have that slight smattering of chemistry which will enable one to distinguish from the salts used in medicine, the oxalic acid, with which, through mistake, several persons have been poisoned. Again, without being an eminent botanist, a person may know—what it is most important to know—the difference between cherries and the berries of the deadly nightshade; the want of which knowledge has cost many lives.

Again, there is no one, even of those who are not profound politicians, who is not aware that we have Rulers; and is it not proper that he should understand that government is necessary to preserve our lives and property? Is he likely to be a worse subject for knowing that? That depends very much on the kind of government you wish to establish. If you wish to establish an unjust and despotic government—or, if you wish to set up a false religion—then it would be advisable to avoid the danger of enlightening the people. But if you wish to maintain a good government, the more the people understand the advantages of such a government, the more they will respect it; and the more they know of true religion, the more they will value it.

There is nothing more general among uneducated people than a disposition to socialism, and yet nothing more injurious to their own welfare. An equalization of wages would be most injurious to themselves, for it would, at once, destroy all emulation. All motives for the acquisition of skill, and for superior industry, would be removed. Now, it is but a little knowledge of political economy that is needed for the removal of this error; but that little is highly useful.

Again, every one knows, no matter how ignorant of medicine, that there is such a thing as disease. But as an instance of the impossibility of the "taste not" recommendation of the poet, a fact may be mentioned, which perhaps is known to most. When the cholera broke out in Poland, the peasantry of that country took it into their heads that the nobles were poisoning them in order to clear the country of them; they believed the rich to be the authors of that terrible disease; and the consequence was that the peasantry rose in masses, broke into the houses of the nobility, and finding some chloride of lime, which had been used for the purpose of disinfecting, they took it for the poison which had caused the disease; and they murdered them. Now, that was the sort of "little learning" which was very dangerous.

Again we can not prevent people from believing that there is some superhuman

Being who has regard to human affairs. Some clowns in the Weald of Kent, who had been kept as much as possible on the "taste not" system,—left in a state of gross ignorance,—yet believed that the Deity did impart special powers to certain men; and that belief, coupled with excessive stupidity, led them to take an insane fanatic for a prophet. In this case, this "little learning" actually caused an insurrection in his favor, in order to make him king, priest and prophet of the British empire; and many lives were sacrificed before this insane insurrection was put down. If a "little learning" is a "dangerous thing," you will have to keep people in a perfect state of idiocy in order to avoid that danger. I would, therefore, say that both the recommendations of the poet are impracticable.

The question arises, what are we to do? Simply to impress upon ourselves and upon all people the importance of laboring in that much neglected branch of human knowledge—the knowledge of our own ignorance;—and of remembering that it is by a confession of real ignorance that real knowledge must be gained. But even when that further knowledge is not attained, still even the knowledge of the ignorance is a great thing in itself; so great, it seems, as to constitute Socrates the wisest of his time.

Some of the chief sources of *unknown* ignorance may be worth noticing here. They are to be found in our not being aware: 1. How inadequate a medium language is for conveying thought. 2. How inadequate our very minds are for the comprehension of many things. 3. How little we need understand a word which may yet be familiar to us, and which we may use in reasoning. This piece of ignorance is closely connected with the two foregoing. (Hence, frequently, men will accept as an explanation of a phenomenon, a mere statement of the difficulty in other words.) 4. How utterly ignorant we are of efficient causes; and how the philosopher who refers to the law of gravitation the falling of a stone to the earth, no further explains the phenomenon than the peasant, who would say it is the nature of it. The philosopher knows that the stone obeys the *same* law to which all *other* bodies are subject, and to which, for convenience, he gives the name of gravitation. His knowledge is only more *general* than the peasant's; which, however, is a vast advantage. 5. How many words there are that express, not the nature of the thing they are applied to, but the manner in which they *affect us*; and which, therefore, give about as correct a notion of those things, as the word "crooked" would, if applied to a stick half immersed in water. (Such is the word *Chance*, with all its family.) 6. How many causes may, and usually do, conduce to the same effect. 7. How liable the faculties, even of the ablest, are to occasional failure; so that they shall overlook mistakes (and those often the most at variance with their own established notions) which, *when once exposed*, seem quite gross even to inferior men. 8. How much all are biassed, in all their moral reasonings, by self-love, or perhaps, rather, partially to *human nature*, and other passions. 9. Dugald Stewart would add very justly, How little we know of *matter*; no more indeed than of mind; though all are prone to attempt explaining the phenomena of mind by those of matter: for, what is *familiar* men generally consider as *well known*, though the fact is oftener otherwise.

The errors arising from these causes, and from not calculating on them,—that is, in short, from ignorance of our own ignorance, have probably impeded philosophy more than all other obstacles put together.

Certain it is, that only by this ignorance of our ignorance can "a little learning"

become "a dangerous thing." The dangers of knowledge are not to be compared with the dangers of ignorance. A man is more likely to miss his way in darkness than in twilight: in twilight than in full sun. And those contemners of studies who say (with Mandeville, in his *Treatise against Charity-schools*) "If a horse knew as much as a man, I should not like to be his rider," ought to add, "If a man knew as little as a horse, I should not like to trust him to ride." It is indeed possible to educate the children of the poor so as to disqualify them for an humble and laborious station in life; but this mistake does not so much consist in the amount of the knowledge imparted, as in the *kind* and the *manner* of education. Habits early engrafted on children, of regular attention,—of steady application to what they are about,—of prompt obedience to the directions they receive,—of cleanliness, order, and decent and modest behavior, can not but be of advantage to them in after life, whatever their station may be. And certainly, their familiar acquaintance with the precepts and example of Him who, when all stations of life were at his command, chose to be the reputed son of a poor mechanic, and to live with peasants and fishermen; or, again, of his apostle Paul, whose own hands "ministered to his necessities," and to those of his companions:—such studies, I say, can surely never tend to unfit any one for a life of humble and contented industry.

What, then, is the "smattering"—the imperfect and superficial knowledge—that really does deserve contempt? A slight and superficial knowledge is justly condemned, when it is put in the place of more full and exact knowledge. Such an acquaintance with chemistry and anatomy, *e. g.* as would be creditable, and not useless, to a lawyer, would be contemptible for a physician; and such an acquaintance with law as would be desirable for him, would be a most discreditable smattering for a lawyer.

It is to be observed that the word *smattering* is applied to two different kinds of scanty knowledge—the *rudimentary* and the *superficial*; though it seems the more strictly to belong to the latter. Now, as it is evident that no one can learn all things perfectly, it seems best for a man to make some pursuit his main object, according to, first, his *calling*; secondly, his *natural bent*; or thirdly, his *opportunities*: then, let him get a slight knowledge of what else is worth it, regulated in his choice by the same three circumstances; which should also determine, in great measure, where an elementary and where a superficial knowledge is desirable. Such as are of the most dignified and philosophical nature are most proper for elementary study; and such as we are the most likely to be called upon to practice for ourselves, the most proper for superficial; *e. g.*, it would be to most men of no practical use, and, consequently, not worth while, to learn by heart the meaning of some of the Chinese characters; but it might be very well worth while to study the principles on which that most singular language is constructed; *contra*, there is nothing very curious or interesting in the structure of the Portuguese language; but if one were going to travel in Portugal, it would be worth while to pick up some words and phrases. If both circumstances conspire, then, both kinds of information are to be sought for; and such things should be learned a little at *both ends*; that is, to understand the elementary and fundamental *principles*, and also to know some of the most remarkable *results*—a little of the rudiments, and a little of what is most called for in practice. *E. g.*, a man who has not made any of the physical or mathematical sciences his favorite pursuit, ought yet to know the principles of geometrical reasoning, and the elements of

mechanics; and also to know, by rote, something of the magnitude, distances, and motions of the heavenly bodies, though without having gone over the intermediate course of scientific demonstration.

Grammar, logic, rhetoric, and metaphysics, [or the philosophy of mind,] are manifestly studies of an *elementary* nature, being concerned about the instruments which we employ in effecting our purposes; and ethics, which is, in fact, a branch of metaphysics, may be called the elements of conduct. Such knowledge is far from showy. Elements do not much come into sight; they are like that part of a bridge which is under water, and is therefore least admired, though it is not the work of least art and difficulty. On this ground it is suitable to females, as least leading to that pedantry which learned ladies must ever be peculiarly liable to, as well as least exciting that jealousy to which they must ever be exposed, while learning in them continues to be a *distinction*. A woman might, in this way, be very learned without any one's finding it out.

"Read not to contradict and confute, nor to believe and take for granted, nor to find talk and discourse, but to weigh and consider. Some books are to be tasted, others to be swallowed, and some few to be chewed and digested."

It would have been well if Bacon had added some hints as to the *mode* of study: *how* books are to be chewed, and swallowed, and digested. For, besides inattentive readers, who measure their proficiency by the pages they have gone over, it is quite possible, and not uncommon, to read most laboriously, even so as to get by heart the words of a book, without really *studying* it at all; that is, without employing the *thoughts* on the *subject*.

In particular, there is, in reference to Scripture,¹ "a habit cherished by some persons, of reading—assiduously, indeed—but without any attentive reflection and studious endeavor to ascertain the real sense of what they read—concluding that whatever impression is found to be left on the mind after a bare perusal of the words, must be what the sacred writers designed. They use, in short, little or none of that care which is employed on any other subject in which we are much interested, to read through each treatise consecutively as a whole,—to compare one passage with others that may throw light on it, and to consider what was the general drift of the author, and what were the occasions, and the persons he had in view.

"In fact, the real *students* of Scripture, properly so called, are, I fear, fewer than is commonly supposed. The theological student is often a student chiefly of some human system of divinity, fortified by *references* to Scripture, introduced from time to time as there is occasion. He proceeds—often unconsciously—by setting himself to ascertain, not what is the information or instruction to be derived from a certain narrative or discourse of one of the sacred writers, but what aid can be derived from them towards establishing or refuting this or that point of dogmatic theology. Such a mode of study surely ought at least not to be exclusively pursued. At any rate, it can not properly be called a *study* of Scripture.

"There is, in fact, a danger of its proving a great *hindrance* to the profitable study of Scripture; for so strong an association is apt to be established in the mind between certain expressions, and the *technical* sense to which they have been confined in some theological system, that when the student meets with them

¹ See *Essays on the Difficulties of St. Paul's Epistles*. Essay X. page 232.

in Scripture, he at once understands them in that sense, in passages where perhaps an unbiassed examination of the context would plainly show that such was not the author's meaning. And such a student one may often find expressing the most unfeigned wonder at the blindness of those who can not find in Scripture such and such doctrines, which appear to him to be as clearly set forth there as words can express; which perhaps they are, on the (often gratuitous) *supposition* that those words are everywhere to be understood exactly in the sense which he has previously derived from some human system,—a system through which, as through a discolored medium, he views Scripture. But this is not to take Scripture for one's guide, but rather to make one's self a *guide* to Scripture.

"Others, again, there are, who are habitual readers of the Bible, and perhaps of little else, but who yet can not properly be said to *study* anything at all on the subject of religion, because, as was observed just above, they do not even attempt to exercise their mind on the subject, but trust to be sufficiently enlightened and guided by the mere act of perusal, while their minds remain in a passive state. And some, I believe, proceed thus on principle, considering that they are the better recipients of revealed truth the less they exercise their own reason.

"But this is to proceed on a totally mistaken view of the real province of reason. It would, indeed, be a great error to attempt *substituting* for revelation conjectures framed in our own mind, or to speculate on matters concerning which we have an imperfect knowledge imparted to us by revelation, and could have had, without it, none at all. But this would be, not to use, but to abuse, our rational faculties. By the use of our senses, which are as much the gift of the Creator as anything else we enjoy,—and by employing our reason on the objects around us, we can obtain a certain amount of valuable knowledge. And beyond this, there are certain other points of knowledge unattainable by these faculties, and which God has thought fit to impart to us by his inspired messengers. But *both* the volumes—that of Nature and that of Revelation—which He has thought good to lay before us, are to be carefully studied. On both of them we must diligently employ the faculties with which He, the Author of both, has endued us, if we would derive full benefit from his gifts.

"The telescope, we know, brings within the sphere of our own vision much that would be undiscernible by the naked eye; but we must not the less employ our eyes in making use of it; and we must watch and calculate the motions, and reason on the appearances, of the heavenly bodies, which are visible only through the telescope, with the same care we employ in respect of those seen by the naked eye.

"And an analogous procedure is requisite if we would derive the intended benefit from the pages of inspiration, which were designed not to save us the trouble of inquiring and reflecting, but to enable us, on some points, to inquire and reflect to better purpose,—not to supersede the use of our reason, but to supply its deficiencies."

Although, however, it is quite right, and most important, that the *thoughts* should be exercised on the subject of what you are reading, there is one mode of exercising the thoughts that is very hurtful; which is, that of *substituting conjectures* for attention to what the author says. Preliminary reflection on the subject is, as has been above said, very useful in many cases; though, by the way, it is unsafe as a preparation for the study of *Scripture*; and, in all studies, care should be taken to guard against allowing the judgment to be biased by

notions hastily and prematurely adopted. And again, *after* you have studied an author, it will be very advisable (supposing it is an uninspired and consequently fallible one) to reflect on what he says, and consider whether he is right, and how far.

But while *actually engaged* in perusal, attend to what the writer actually says, and endeavour fairly to arrive at *his* meaning, *before* you proceed to speculate upon it for yourself.

The study of a book, in short, should be conducted nearly according to the same rule that Bacon lays down for the study of nature. He warns philosophers, earnestly and often, against substituting for what he calls the "interrogatio naturæ," the "anticipatio naturæ;" that is, instead of attentive observation and experiment, forming conjectures as to what seems to us *likely*, or *fitting*, according to some hypothesis devised by ourselves. In like manner, in studying an author, you should *keep apart* interpretation and conjecture.

A good teacher warns a student of some book in a foreign language that he is learning, not to *guess* what the author is likely to have meant, and then twist the words into that sense, against the idiom of the language; but to be *led by* the words in the first instance; and then, if a difficulty as to the sense remains, to guess which of the possible meanings of the words is the most likely to be the right.

E. g. The words in the original of John xviii. 15, ὁ ἄλλος μαθητής, plainly signify "the other disciple;" and one of the commentators, perceiving that this is inconsistent with the opinion he had taken up, that this disciple was John himself, (since John had not been mentioned before, and the article, therefore, would make it refer to Judas, who alone had been just above named,) boldly suggests that the *reading must be wrong*, (though all the MSS. agree in it,) and that the article ought to be omitted, because it *spoils the sense*; that is, the sense which agrees with a *conjecture* adopted in defiance of the words of the passage.

This one instance may serve as a specimen of the way in which some, instead of interpreting an author, undertake to re-write what he has said.

The like rule holds good in other studies, quite as much as in that of a language. We should be ever on our guard against the tendency to read through *colored spectacles*.

Educational habits of thought, analogies, antecedent reasonings, feelings, and wishes, &c., will be always leading us to form some conjectural hypothesis, which is not necessarily hurtful, and may sometimes furnish a useful hint, but which must be most carefully watched, lest it produce an unfair bias, and lead you to strain into a conformity with it the words or the phenomena before you.

A man sets out with a conjecture as to what the Apostles are *likely* to have said, or *ought* to have said, in conformity with the the theological system he has learnt; or what the Most High may have done or designed; or what is or is not agreeable to the "analogy of faith," (see Campbell on the Gospels;) i. e., of a piece with the christian system—namely, that which *he* has been taught, by fallible men, to regard as the christian system; and then he proceeds to examine Scripture, as he would examine with *leading questions* a witness whom he had summoned in his cause.

"As the fool thinketh,
So the bell chinketh."

Perhaps he "*prays through*" all the Bible; not with a candid and teachable

mind, seeking instruction, but unconsciously praying that he may find himself in the right. And he will seldom fail.

"Hic liber est in quo querit sua dogmata quisque ;
Invenit et pariter dogmata quisque sua."

"In this book many students seek each one to find
The doctrine or precept that's most to his mind :
And each of them finds what they earnestly seek ;
For as the fool thinks, even so the bells speak."

It is the same with philosophy. If you have a strong wish to find phenomena such as to confirm the conjectures you have formed, and allow that wish to bias your examination, you are ill-fitted for interrogating nature. Both that, and *the other volume* of the records of what God does,—Revelation,—are to be interrogated, not as *witnesses*, but as *instructors*. You must let all your conjectures hang loose upon you ; and be prepared to learn from what is written in each of those volumes, with the aid of the conjectures of reason ; not from reason, (nor, by the by, from feelings and fancies, and wishes, and human authority,) with Scripture for your aid.

This latter procedure, which is a very common one with theological students, may be called making an *anagram* of Scripture,—taking it to pieces and reconstructing it in the model of some human system of "Institutes:" building a temple of one's own, consisting of the stones of the true one pulled down and put together in a new fashion.

Yet divines of this description are often considered by others as well as by themselves, pre-eminently scriptural, from their continual employment of the *very words* of Scripture, and their readiness in citing a profusion of texts. But, in reality, instead of using a human *commentary* on Scripture, they use Scripture itself as a kind of commentary on some human system. They make the *warp* human, and interweave an abundance of Scripture as a *woof*; which is just the reverse of the right procedure. But this may be called, truly, in a certain sense, "*taking a text from Scripture*," "*preaching such and such a doctrine out of Scripture*," and "*improving Scripture*."

Thus it is that men, when comparing their opinions with the standard of God's Word, suffer these opinions to *bend the rule* by which they are to be measured. But he who studies the Scriptures should remember that he is consulting the Spirit of Truth, and if he would hope for his aid, through whose enlightening and supporting grace alone those Scriptures can be read with advantage, he must search honestly and earnestly for the truth.

"*Read not to contradict and confute ; nor to believe and take for granted.*"

With respect to the deference due to the opinions (written or spoken) of intelligent and well-informed men, it may be remarked, that *before* a question has been fully argued, there is a presumption that they are in the right ; but *afterwards*, if objections have been brought which they have failed to answer, the presumption is the other way. The wiser, and the more learned, and the more numerous, are those opposed to you, and the more strenuous and persevering their opposition, the greater is the probability that if there were any flaw in your argument they would have refuted you. And therefore your adhering to an opposite opinion from theirs, so far from being a mark of arrogant contempt, is, in reality, the strongest proof of a high respect for them. For example—The

strongest confirmation of the fidelity of the translations of Scripture published by the Irish School Commissioners, is to be found in the many futile attempts, made by many able and learned men, to detect errors in them.

This important distinction is often overlooked.

"Reading maketh a full man, conference a ready man, and writing an exact man."

Writing an Analysis, table of Contents, Index, or Notes to any book, is very important for the study, properly so called, of any subject. And so, also, is the practice of *previously* conversing or writing on the subject you are about to study.

I have elsewhere alluded to this kind of practice,¹ and suggested to the teacher "to put before his pupils, *previously* to their reading each lesson, some questions pertaining to the matter of it, requiring of them answers, oral or written, the best they can think of *without* consulting the book. Next, let them read the lesson, having other questions, such as may lead to any needful explanations, put before them as they proceed. And afterwards let them be examined (introducing numerous examples framed by themselves and by the teacher) as to the portion they have learned, in order to judge how far they remember it.

"Of the three kinds of questions,—which may be called, 1, *preliminary* questions; 2, questions of *instruction*; and 3, questions of *examination*,—the last alone are, by a considerable portion of instructors, commonly employed. And the elementary books commonly known as 'catechisms,' or 'books in question and answer,' consist, in reality, of questions of this description.

"But the second kind—what is properly to be called instructive questioning—is employed by all who deserve to be reckoned good teachers.

"The first kind—the preliminary questioning—is employed (systematically and constantly) but by few. And, at first sight, it might be supposed by those who have not had experience of it, that it would be likely to increase the learner's difficulties. But if any well-qualified instructor will but carefully and judiciously try the experiment (in teaching any kind of science,) he will be surprised to find to how great a degree this exercise of the student's mind on the subject will contribute to his advancement. He will find that what has been taught in the mode above suggested, will have been learnt in a shorter time, will have been far the more thoroughly understood, and will be fixed incomparably the better in the memory."

Curiosity is as much the parent of attention, as attention is of memory; therefore the first business of a teacher—first, not only in point of time, but of importance—should be to excite, not merely a general curiosity on the subject of the study, but a particular curiosity on particular points in that subject. To teach one who has no curiosity to learn, is to sow a field without ploughing it.

And this process saves a student from being (as many are) intellectually damaged by having a very good memory. For an unskillful teacher is content to put before his pupils what they have to learn, and ascertaining that they remember it. And thus those of them whose memory is ready and attentive, have their mind left in a merely passive state, and are like a person always carried about in a sedan chair, till he has almost lost the use of his limbs. And then it is made a wonder that a person who has been so well taught, and who was so quick in

¹ See Preface to *Easy Lessons on Reasoning*. Page v.

learning and remembering, should not prove an able man; which is about as reasonable as to expect that a capacious cistern, if filled, should be converted into a perennial fountain. Many are saved, by the deficiency of their memory, from being spoiled by their education; for those who have no extraordinary memory, are driven to supply its defects by *thinking*. If they do not remember a mathematical demonstration, they are driven to devise one. If they do not exactly retain what Aristotle or Smith have said, they are driven to consider what they were *likely* to have said, or ought to have said. And thus their faculties are invigorated by exercise.

Now, this kind of exercises a skillful teacher will afford to *all*; so that no one shall be spoiled by the goodness of his memory.

A very common practice may be here noticed, which should be avoided, if we would create a habit of studying with profit—that of making children *learn by rote* what they do not *understand*. “It is done on this plea—that they will hereafter learn the meaning of what they have been thus taught, and will be able to make a practical use of it.” But no attempt at economy of time can be more injudicious. Let any child whose capacity is so far matured as to enable him to comprehend an explanation,—*e. g.*, of the Lord’s Prayer,—have it *then* put before him for the first time, and when he is made acquainted with the meaning of it, set to learn it by heart; and can any one doubt that, in less than a half a day’s application, he would be able to repeat it fluently? And the same would be the case with other forms. All that is learned by rote by a child before he is competent to attach a meaning to the words he utters, would not, if all put together, amount to so much as would cost him, when able to understand it, a week’s labor to learn perfectly. Whereas, it may cost the toil, often the vain toil, of many years, to unlearn the habit of *formalism*—of repeating words by rote without attending to their meaning; a habit which every one conversant with education knows to be in all subjects most readily acquired by children, and with difficulty avoided even with the utmost care of the teacher; but which such a plan must inevitably tend to generate. It is often said, and very truly, that it is important to form early habits of piety; but to train a child in one kind of habit, is not the most likely way of forming the opposite one; and nothing can be more contrary to true piety, than the Romish superstition (for such in fact it is) of attaching efficacy to the repetition of a certain form of words as a charm, independent of the understanding and of the heart.

“It is also said, with equal truth, that we ought to take advantage of the facility which children possess of learning; but to infer from thence, that Providence designs us to make such a use (or rather abuse) of this gift as we have been censuring, is as if we were to take advantage of the readiness with which a new-born babe swallows whatever is put into its mouth, to dose it with ardent spirits, instead of wholesome food and necessary medicine. The readiness with which children learn and remember words, is in truth a most important advantage if rightly employed; viz., if applied to the acquiring that mass of what may be called *arbitrary* knowledge of insulated facts, which *can only* be learned by rote, and which is necessary in after life; when the acquisition of it would both be more troublesome, and would encroach on time that might otherwise be better employed. Chronology, names of countries, weights and measures, and indeed all the *words* of any language, are of this description. If a child had even ten times the ordi-

any degree of the faculty in question, a judicious teacher would find abundance of useful employment for it, without resorting to any that could possibly be detrimental to his future habits, moral, religious, or intellectual."

One very useful precept for students, is never to *remain long* puzzling out any difficulty; but lay the book and the subject aside, and return to it some hours after, or next day; after having turned the attention to something else. Sometimes a person will weary his mind for several hours in some efforts (which might have been spared) to make out some difficulty; and next day, when he returns to the subject, will find it quite easy.

The like takes place in the effort to recollect some *name*. You may fatigue yourself in vain for hours together; and if you turn to something else (which you might as well have done at once) the name will, as it were, flash across you without an effort.

There is something analogous to this, in reference to the scent of dogs. When a wounded bird, for instance, has been lost in the thicket, and the dogs fail, after some search, to find it, a skillful sportsman always draws them off, and hunts them elsewhere for an hour, and then brings them back to the spot to try afresh; and they will often, then, find their game readily: though, if they had been hunting for it all the time, they would have failed.

It seems as if the dog—and the mind—having got into a kind of *wrong track*, continued in the same error, till drawn completely away elsewhere.

Always trust, therefore, for the overcoming of a difficulty, not to *long continued study* after you have once got bewildered, but to *repeated trials*, at intervals.

It may be here observed, that the student of any science or art should not only distinctly understand all the technical language, and all the rules of the art, but also learn them by heart, so that they may be remembered as familiarly as the alphabet, and employed *constantly* and with scrupulous exactness. Otherwise, technical language will prove an encumbrance instead of an advantage, just as a suit of clothes would be, if instead of putting them on and wearing them, one should carry them about in his hand.

"There is no stond or impediment in the wit, but may be wrought out by fit studies."

It is a pity that Bacon did not more fully explain the mode in which different kinds of studies act on the mind. As an exercise of the reasoning faculty, pure mathematics is an admirable exercise, because it consists of *reasoning* alone, and does not encumber the student with any exercise of *judgment*: and it is well always to begin with learning one thing at a time, and to defer a combination of mental exercises to a later period. But then it is important to remember that mathematics does *not* exercise the *judgment*; and consequently, if too exclusively pursued, may leave the student very ill qualified for moral reasonings.

"The definitions, which are the principles of our reasoning, are very *few*, and the axioms still fewer; and both are, for the most part, *laid down* and *placed before the student in the outset*; the introduction of a new definition or axiom being of comparatively rare occurrence, at wide intervals, and with a *formal* statement, besides which, there is no room for *doubt* concerning either. On the other hand, in all reasonings which regard matters of fact, we introduce, almost at *every step*, fresh and fresh propositions (to a very great number) which had not been elicited in the course of our reasoning, but are taken for granted; viz., *facts*,

and laws of nature, which are here the principles of our reasoning, and *maxims*, or 'elements of belief,' which answer to the axioms in mathematics. If, at the opening of a treatise, for example, on chemistry, on agriculture, on political economy, &c., the author should make, as in mathematics, a formal statement of all the propositions he intended to assume as granted, throughout the whole work, both he and his readers would be astonished at the number; and, of these, many would be only probable, and there would be much room for doubt as to the *degree* of probability, and for judgment in ascertaining that degree.

"Moreover, mathematical axioms are always employed precisely in the *same simple form*: *e. g.*, the axiom that 'the things equal to the same are equal to one another,' is cited, whenever there is need, in those very words; whereas the maxims employed in the other class of subjects, admit of, and require, continual modifications in the application of them. *E. g.*, 'the stability of the laws of nature,' which is our constant assumption in inquiries relating to natural philosophy, appears in many different shapes, and in some of them does not possess the same complete certainty as in others; *e. g.*, when, from having always observed a certain sheep ruminating, we infer, that this individual sheep will continue to ruminate, we assume that 'the property which has hitherto belonged to this sheep will remain unchanged;' when we infer the same property of all sheep, we assume that 'the property which belongs to this individual belongs to the whole species;' if, on comparing sheep with some other kinds of horned animals,¹ and finding that all agree in ruminating, we infer that 'all horned animals ruminate,' we assume that 'the whole of a genus or class are likely to agree in any point wherein many species of that genus agree;' or in other words, 'that if one of two properties, &c., has *often* been found accompanied by another, and never without it, the former will be *universally* accompanied by the latter;' now all these are merely different forms of the maxim, that 'nature is uniform in her operations,' which, it is evident, varies in expression in almost every different case where it is applied, and the application of which admits of every degree of evidence, from perfect moral certainty, to mere conjecture.

"The same may be said of an infinite number of principles and maxims appropriated to, and employed in, each particular branch of study. Hence, all such reasonings are, in comparison of mathematics, very complex; requiring so much *more* than that does, beyond the process of merely deducing the conclusion logically from the premises: so that it is no wonder that the longest mathematical demonstration should be so much more easily constructed and understood than a much shorter train of just reasoning concerning real facts. The former has been aptly compared to a long and steep, but even and regular, flight of steps, which tries the breath, and the strength, and the perseverance only; while the latter resembles a short, but rugged and uneven, ascent up a precipice, which requires a quick eye, agile limbs, and a firm step; and in which we have to tread now on this side, now on that—ever considering, as we proceed, whether this or that projection will afford room for our foot, or whether some loose stone may not slide from under us. There are probably as many steps of pure reasoning in one of the longer of Euclid's demonstrations, as in the whole of an argumentative treatise on some other subject, occupying perhaps a considerable volume.

¹ Viz., having horns on the skull. What are called the horns of the rhinoceros are quite different in origin, and in structure, as well as in situation, from what are properly called horns.

"It may be observed here that mathematical reasoning, as it calls for no exercise of judgment respecting probabilities, is the best kind of introductory exercise; and from the same cause, is apt, when too exclusively pursued, to make men incorrect moral reasoners.

"As for those ethical and legal reasonings which were lately mentioned as in some respects resembling those of mathematics, (viz., such as keep clear of all assertions respecting facts,) they have this difference; that not only men are not so completely *agreed* respecting the maxims and principles of ethics and law, but the meaning also of each term can not be absolutely, and for ever, fixed by an arbitrary definition; on the contrary, a great part of our labor consists in distinguishing accurately the various senses in which men employ each term,—ascertaining which is the most proper,—and taking care to avoid confounding them together.

"It may be worth while to add in this place, that as a candid disposition,—a hearty desire to judge fairly, and to attain truth,—are evidently necessary with a view to give fair play to the reasoning powers, in subjects where we are liable to a bias from interest or feelings, so, a fallacious perversion of this maxim finds a place in the minds of some persons; who accordingly speak disparagingly of all exercise of the reasoning faculty in moral and religious subjects; declaiming on the insufficiency of *mere* intellectual power for the attainment of truth in such matters,—on the necessity of appealing to the heart rather than to the head, &c., and then leading their readers or themselves to the conclusion that the less we *reason* on such subjects the safer we are.

"But the proper office of candor is to *prepare* the mind not for the *rejection* of all evidence, but for the right *reception* of evidence;—not to be a *substitute* for reasons, but to enable us *fairly to weigh* the reasons on both sides. Such persons as I am alluding to are in fact saying that since just weights *alone*, without a just balance, will avail nothing, therefore we have only to take care of the scales, and let the weights take care of themselves.

"This kind of tone is of course most especially to be found in such writers as consider it expedient to inculcate on the mass of mankind what—there is reason to suspect—they do not themselves fully believe, and which they apprehend is the more likely to be rejected the more it is investigated."

A curious anecdote (which I had heard, in substance, some years before) was told me by the late Sir Alexander Johnstone. When he was acting as temporary governor of Ceylon, (soon after its cession,) he sat once as judge in a trial of a prisoner for a robbery and murder; and the evidence seemed to him so conclusive, that he was about to charge the jury (who were native Cingalese) to find a verdict of guilty. But one of the jury asked and obtained permission to examine the witnesses himself. He had them brought in one by one, and cross-examined them so ably as to elicit the fact that they were *themselves* the perpetrators of the crime, which they afterwards had conspired to impute to the prisoner. And they were accordingly put on their trial and convicted.

Sir A. J. was greatly struck by the intelligence displayed by this juror; the more, as he was only a small farmer, who was not known to have had any remarkable advantages of education. He sent for him, and after commending the wonderful sagacity he had shown, inquired eagerly what his studies had been. The man replied that he had never read but one book, the only one he possessed, which had long been in his family, and which he delighted to study in his leisure

hours. This book he was prevailed on to show to Sir A. J., who put it into the hands of one who knew the Cingalese language. It turned out to be a translation into that language of a large portion of Aristotle's *Organon*. It appears that the Portuguese, when they first settled in Ceylon and other parts of the East, translated into the native languages several of the works then studied in the European Universities; among which were the Latin versions of Aristotle.

The Cingalese in question said that if his understanding had been in any degree cultivated and improved, it was to that book he owed it.

It is very important to warn all readers of the influence likely to be exercised in the formation of their opinions, *indirectly*, and by works not professedly argumentative, such as Poems and Tales. Fletcher of Saltoun said, he would let any one have the making of the laws of a country, if he might have the making of their ballads.

An observation in the *Lectures on Political Economy* on one cause which has contributed to foster an erroneous opinion of the superior moral purity of poor and half-civilized countries, is equally applicable to a multitude of other cases, on various subjects. "One powerful, but little suspected cause, I take to be, an early familiarity with poetical descriptions of pure, unsophisticated, rustic life, in remote, sequestered, and unenlightened districts;—of the manly virtue and practical wisdom of our simple forefathers, before the refinements of luxury had been introduced;—of the adventurous wildness, so stimulating to the imagination, of savage or pastoral life, in the midst of primeval forests, lofty mountains, and all the grand scenery of uncultivated nature. Such subjects and scenes are much better adapted for poets, than thronged cities, workshops, coalpits, and iron-foundries. And poets, whose object is to please, of course keep out of sight all the odious or disgusting circumstances pertaining to the life of the savage or the untutored clown, and dwell exclusively on all the amiable and admirable parts of that simplicity of character which they feign or fancy. Early associations are thus formed, whose influence is often the stronger and the more lasting, from the very circumstance that they are formed *unconsciously*, and do not come in the form of propositions demanding a deliberate assent. Poetry does not profess to aim at conviction; but it often leaves impressions which affect the reasoning and the judgment. And a false impression is perhaps oftener conveyed in other ways than by sophistical argument; because *that* rouses the mind to exert its powers, and to assume, as it were, a reasoning mood."¹

The influence exercised by such works is overlooked by those who suppose that a child's character, moral and intellectual, is formed by those books only which are put into his hands with that *design*. As hardly anything can accidentally touch the soft clay without stamping its mark on it, so, hardly any reading can interest a child without contributing in some degree, though the book itself be afterwards totally forgotten, to form the character; and the parents, therefore, who, merely requiring from him a certain course of *study*, pay little or no attention to story-books, are educating him they know not how.

And here, I would observe that in books designed for children there are two extremes that should be avoided. The one, that reference to religious principles

¹ In an article in a Review I have seen mention made of a person who discovered the falsity of a certain doctrine (which, by the way, is nevertheless a true one, that of Malthus,) *instinctively*. This kind of instinct, i. e. the habit of forming opinions at the suggestion rather of feeling than of reason, is very common.

in connection with matters too trifling and undignified, arising from a well-intentioned zeal, causing a forgetfulness of the maxim whose notorious truth has made it proverbial, "Too much familiarity breeds contempt." And the other is the contrary, and still more prevailing extreme, arising from a desire to preserve a due reverence for religion, at the expense of its useful application in conduct. But a line may be drawn which will keep clear of both extremes. We should not exclude the association of things sacred with whatever are to *ourselves* trifling matters, (for "these little things are great" to children,) but, with whatever is viewed by *them* as trifling. Every thing is great or small in reference to the parties concerned. The private concerns of any obscure individual are very insignificant to the world at large, but they are of great importance to himself. And all worldly affairs must be small in the sight of the Most High; but irreverent familiarity is engendered in the mind of any one, then, and then only, when things sacred are associated with such as are, to him, insignificant things.

And here I would add that those works of fiction are worse than unprofitable that inculcate morality, with an exclusion of all reference to religious principle. This is obviously and notoriously the character of Miss Edgeworth's moral tales. And so entire and resolute is this exclusion, that it is maintained at the expense of what may be called poetical truth; it destroys, in many instances, the probability of the tale, and the naturalness of the characters. That Christianity *does* exist, every one must believe as an incontrovertible truth; nor can any one deny that, whether true or false, it does exercise,—at least is supposed to exercise,—an influence on the feelings and conduct of some of the believers in it. To represent, therefore, persons of various ages, sex, country, and station in life, as practicing, on the most trying occasions, every kind of duty, and encountering every kind of danger, difficulty, and hardship, while none of them ever makes the least reference to a religious motive, is as decidedly at variance with reality,—what is called in works of fiction *unnatural*,—as it would be to represent Mahomet's enthusiastic followers as rushing into battle without any thought of his promised paradise. This, therefore, is a blemish *in point of art*, which every reader possessing taste must perceive, whatever may be his religious or non-religious persuasion. But a far higher, and more important, question than that of taste is involved. For though Miss Edgeworth may entertain opinions which would not permit her, with consistency, to attribute more to the influence of religion than she has done, and in that case may stand acquitted, *in foro conscientie*, of willfully suppressing anything which she acknowledges to be true and important; yet, as, a writer, it must still be considered as a great blemish, in the eyes at least of those who think differently, that virtue should be studiously inculcated, with scarcely any reference to what they regard as the mainspring of it,—that vice should be traced to every other source except the want of religious principle,—that the most radical change from worthlessness to excellence should be represented as wholly independent of that Agent which they consider as the only one that can accomplish it,—and that consolation under affliction should be represented as derived from every source, except the one which they look to as the only true and sure one. "Is it not because there is no God in Israel, that ye have sent to inquire of Baalzebub, the God of Ekron?" This vital defect in such works should be constantly pointed out to the young reader; and he should be warned that, to realize the picture of noble, disinterested, thorough-going virtue, presented in such and such an instance, it is absolutely necessary to resort to those

principles which in these fictions are unnoticed. He should, in short, be reminded that all these "things that are lovely and of good report," which have been placed before him, are the genuine fruits of the Holy Land; though the spies who have brought them bring also an evil report of that land, and would persuade us to remain wandering in the wilderness.

The student of history, also, should be on his guard against the indirect influence likely to be exercised on his opinions. On this point I take the liberty of quoting a passage from my *Lectures on Political Economy*:—

"An injudicious reader of history is liable to be misled by the circumstance, that historians and travelers occupy themselves principally (as is natural) with the relation of whatever is *remarkable*, and different from what commonly takes place in their own time or country. They do not dwell on the ordinary transactions of human life, (which are precisely what furnish the data on which political economy proceeds,) but on every thing that appears an exception to general rules, and in any way such as could not have been anticipated. The sort of information which the political economist wants is introduced, for the most part, only incidentally and obliquely; and is to be collected, imperfectly, from scattered allusions. So that if you will give a rapid glance, for instance, at the history of these islands, from the time of the Norman conquest to the present day, you will find that the differences between the two states of the country, in most of the points with which our science is conversant, are but very imperfectly accounted for in the main outline of the narrative.

"If it were possible that we could have a full report of the common business and common conversation, in the markets, the shops, and the wharfs of Athens and Piræus, for a single day, it would probable throw more light on the state of things in Greece at that time, in all that political economy is most concerned with, than all the histories that are extant put together.

"There is a danger, therefore, that the mind of the student, who proceeds in the manner I have described, may have been even drawn off from the class of facts which are, for the purpose in question, most important to be attended to.

"For, it should be observed that in all studies there is a danger to be guarded against, which Bacon, with his usual acuteness, has pointed out: that most men are so anxious to make or seek for some application of what they have been learning, as not unfrequently to apply it improperly, by endeavoring, lest their knowledge should lie by them idle, to bring it to bear on some question to which it is irrelevant; like Horace's painter, who, being skillful in drawing a cypress, was for introducing one into the picture of a shipwreck. Bacon complains of this tendency among the logicians and metaphysicians of his day, who introduced an absurd and pernicious application of the studies in which they had been conversant, into natural philosophy: '*Artis sæpe ineptus fit usus, ne sit nullus.*' But the same danger besets those conversant in every other study likewise, (political economy of course not excepted,) that may from time to time have occupied a large share of each man's attention. He is tempted to seek for a solution of every question on every subject, by a reference to his own favorite science or branch of knowledge; like a schoolboy when first intrusted with a knife, who is for trying its edge on every thing that comes in his way.

"Now in reference to the point immediately before us, he who is well read in history and in travels should be warned of the danger (the more on account of the real high importance of such knowledge) of misapplying it,—of supposing

that because political economy is conversant with *human transactions*, and he is acquainted with so much greater an amount of *human transactions* than the generality of men, he must have an advantage over them in precisely the same degree, in discussing questions of political economy. Undoubtedly he has a great advantage, if he is careful to keep in view the true principles of the science; but otherwise he may even labor under a *dis*-advantage, by forgetting that (as I just now observed) the kind of transactions which are made most prominent and occupy the chief space, in the works of historians and travelers, are usually not those of every-day life, with which political economy is conversant. It is in the same way that an accurate *military survey* of any district, or a series of sketches accompanying a *picturesque* tour through it, may even serve to mislead one who is seeking for a knowledge of its *agricultural* condition, if he does not keep in mind the different objects which different kinds of survey have in view.

"Geologists, when commissioning their friends to procure them from any foreign country such specimens as may convey an idea of its geological character, are accustomed to warn them against sending over collections of *curiosities*—i. e. specimens of spars, stalactites, &c., which are accounted, in that country, curious, from being *rarities*, and which consequently convey no correct notion of its general features. What they want is, specimens of the *commonest* strata,—the stones with which the roads are mended, and the houses built, &c. And some fragments of these, which in that country are accounted mere rubbish, they sometimes, with much satisfaction, find *casually adhering* to the specimens sent them as curiosities, and constituting, for their object, the most important part of the collection. Histories are in general, to the political economist, what such collections are to the geologist. The casual allusions to common, and what are considered insignificant matters, conveying to him the most valuable information.

"An injudicious study of history, then, may even prove a hindrance instead of a help to the forming of right views of political economy. For not only are many of the transactions which are, in the historian's view, the most important, such as are the least important to the political economist, but also a great proportion of them consists of what are in reality the *greatest impediments* to the progress of a society in wealth: viz., wars, revolutions, and disturbances of every kind. It is not in consequence of these, but in spite of them, that society has made the progress which in fact it has made. So that in taking such a survey as history furnishes of the course of events, for instance, for the last eight hundred years, (the period I just now alluded to,) not only do we find little mention of the causes which have so greatly increased national wealth during that period, but what we chiefly do read of is, the *counteracting* causes; especially the wars which have been raging from time to time, to the destruction of capital, and the hindrance of improvement. Now, if a ship had performed a voyage of eight hundred leagues, and the register of it contained an account chiefly of the contrary winds and currents, and made little mention of favorable gales, we might well be at a loss to understand how she reached her destination; and might even be led into the mistake of supposing that the contrary winds had forwarded her in her course. Yet such is history!"

In reference to the study of history, I have elsewhere remarked upon the importance, among the intellectual qualifications for such a study, of a vivid imagination,—a faculty which, consequently, a skillful narrator must himself possess, and to which he must be able to furnish excitement in others. Some may, per-

haps, be startled at this remark, who have been accustomed to consider imagination as having no other office than to *feign* and to falsify. Every faculty is liable to abuse and misdirection, and imagination among the rest; but it is a mistake to suppose that it necessarily tends to pervert the truth of history, and to mislead the judgment. On the contrary, our view of any transaction, especially one that is remote in time or place, will necessarily be imperfect, generally incorrect, unless it embrace something more than the bare outline of the occurrences,—unless we have before the mind a lively idea of the scenes in which the events took place, the habits of thought and of feeling of the actors, and all the circumstances connected with the transaction; unless, in short, we can in a considerable degree transport ourselves out of our own age, and country, and persons, and imagine ourselves the agents or spectators. It is from consideration of all these circumstances that we are enabled to form a right judgment as to the facts which history records, and to derive instruction from it. What we imagine may indeed be merely *imaginary*, that is, unreal; but it may again be what actually does or did exist. To say that imagination, if not regulated by sound judgment and sufficient knowledge, may chance to convey to us false impressions of past events, is only to say that man is fallible. But such false impressions are even *much the more* likely to take possession of those whose imagination is feeble or uncultivated. They are apt to imagine the things, persons, times, countries, &c., which they read of, as much less different from what they see around them than is really the case.

The practical importance of such an exercise of imagination to a full, and clear, and consequently profitable view of the transactions related in history, can hardly be over-estimated. In respect of the very earliest of all human transactions, it is matter of common remark how prone many are to regard with mingled wonder, contempt, and indignation, the transgression of our first parents; as if they were not a fair sample of the human race; as if any of us would not, if he had been placed in precisely the same circumstances, have acted as they did. The Corinthians, probably, had perused with the same barren wonder the history of the backslidings of the Israelites; and needed that Paul should remind them, that these things were written for their example and admonition. And all, in almost every portion of history they read, have need of a corresponding warning, to endeavor to fancy themselves the persons they read of, that they may recognize in the accounts of past times the portraiture of our own. From not putting ourselves in the place of the persons living in past times, and entering fully into all their feelings, we are apt to forget how probable many things might appear, which we know did not take place; and to regard as perfectly chimerical, expectations which we know were not realized, but which, had we lived in those times, we should doubtless have entertained; and to imagine that there was no *danger* of those evils which, were, in fact, escaped. We are apt also to make too little allowances for prejudices and associations of ideas, which no longer exist precisely in the same form among ourselves, but which, perhaps, are not more at variance with right reason than others with which ourselves are infected.

"Studies serve for delight, for ornament, and for ability."

We should, then, cultivate, not only the cornfields of our minds, but the pleasure-grounds also. Every faculty and every study, however worthless they may be, when not employed in the service of God,—however debased and pol-

luted when devoted to the service of sin,—become ennobled and sanctified when directed, by one whose constraining motive is the love of Christ, towards a good object. Let not the Christian, then, think "scorn of the pleasant land." That land is the field of ancient and modern literature—of philosophy, in almost all its departments—of the arts of reasoning and persuasion. Every part of it may be cultivated with advantage, as the Land of Canaan when bestowed upon God's peculiar people. They were not commanded to let it lie waste, as incurably polluted by the abominations of its first inhabitants; but to cultivate it, and dwell in it, living in obedience to the divine laws, and dedicating its choicest fruits to the Lord their God.

IX. SCHOOLS AS THEY WERE SIXTY YEARS AGO.

To understand the real progress which has been made in the organization, administration, and instruction of institutions of learning in this country, and at the same time to appreciate the importance of many agencies and means of popular education besides schools, books, and teachers, we must, as far as we can, look into the schools themselves, as they were fifty and sixty years ago, and realize the difficulties and deficiencies under which some of the noblest characters of our history were developed. As a contribution to our knowledge of these difficulties and deficiencies in our schools, we bring together the testimony of several eminent men who were pupils or teachers in these schools, and who assisted in various ways in achieving their improvement.

LETTER FROM NOAH WEBSTER, LL. D.

NEW HAVEN, March 10th, 1840.

MR. BARNARD: *Dear Sir*—You desire me to give you some information as to the mode of instruction in common schools when I was young, or before the Revolution. I believe you to be better acquainted with the methods of managing common schools, at the present time, than I am; and I am not able to institute a very exact comparison between the old modes and the present. From what I know of the present schools in the country, I believe the principal difference between the schools of former times and at present consists in the books and instruments used in the modern schools.

When I was young, the books used were chiefly or wholly Dilworth's Spelling Books, the Psalter, Testament, and Bible. No geography was studied before the publication of Dr. Morse's small books on that subject, about the year 1786 or 1787. No history was read, as far as my knowledge extends, for there was no abridged history of the United States. Except the books above mentioned, no book for reading was used before the publication of the Third Part of my Institute, in 1785. In some of the early editions of that book, I introduced short notices of the geography and history of the United States, and these led to more enlarged descriptions of the country. In 1788, at the request of Dr. Morse, I wrote an account of the transactions in the United States, after the Revolution; which account fills nearly twenty pages in the first volume of his octavo editions.

Before the Revolution, and for some years after, no slates were used in common schools: all writing and the operations in arithmetic were on paper. The teacher wrote the copies and gave the sums in arithmetic; few or none of the

pupils having any books as a guide. Such was the condition of the schools in which I received my early education.

The introduction of my Spelling Book, first published in 1783, produced a great change in the department of spelling; and, from the information I can gain, spelling was taught with more care and accuracy for twenty years or more after that period, than it has been since the introduction of multiplied books and studies.*

No English grammar was generally taught in common schools when I was young, except that in Dilworth, and that to no good purpose. In short, the instruction in schools was very imperfect, in every branch; and if I am not misinformed, it is so to this day, in many branches. Indeed there is danger of running from one extreme to another, and instead of having too few books in our schools, we shall have too many.

I am, sir, with much respect, your friend and obedient servant,

N. WEBSTER.

Dr. Webster in an essay published in a New York paper in 1788, "On the Education of Youth in America," and in another essay published in Hartford, Ct., in 1790, "On Property, Government, Education, Religion, Agriculture, etc., in the United States,"† while setting forth some of the cardinal doctrines of American education as now held, throws light on the condition of schools and colleges in different parts of the country at that date.

The first error that I would mention is a too general attention to the dead languages, with a neglect of our own. * * * This neglect is so general that there is scarcely an institution to be found in the country where the English tongue is taught regularly from its elements to its pure and regular construction in prose and verse. Perhaps in most schools boys are taught the definition of the parts of speech, and a few hard names which they do not understand, and which the teacher seldom attempts to explain: this is called learning grammar. * * * The principles of any science afford pleasure to the student who comprehends them. In order to render the study of language agreeable, the distinctions between words should be illustrated by the difference in visible objects. Examples should be presented to the senses which are the inlets of all our knowledge.

Another error which is frequent in America, is that a master undertakes to teach many different branches in the same school. In new settlements, where the people are poor, and live in scattered situations, the practice is often unavoidable. But in populous towns it must be considered as a defective plan of education. For suppose the teacher to be equally master of all the branches which he attempts to teach, which seldom happens, yet his attention must be distracted with a multiplicity of objects, and consequently painful to himself, and not useful to his pupils. Add to this the continual interruptions which

* The general use of my Spelling Book in the United States has had a most extensive effect in correcting the pronunciation of words, and giving uniformity to the language. Of this change, the present generation can have a very imperfect idea.

† These essays were afterwards collected with others in a volume entitled "A Collection of Essays and Fugitive Writings, etc." By Noah Webster, Jr. Boston: 1790.

the students of one branch suffer from those of another, which must retard the progress of the whole school. It is a much more eligible plan to appropriate an apartment to each branch of education, with a teacher who makes that branch his sole employment. * * * Indeed what is now called a liberal education disqualifies a man for business. Habits are formed in youth and by practice; and as business is in some measure mechanical, every person should be exercised in his employment in an early period of life, that his habits may be formed by the time his apprenticeship expires. An education in a university interferes with the forming of these habits, and perhaps forms opposite habits; the mind may contract a fondness for ease, for pleasure, or for books, which no efforts can overcome. An academic education, which should furnish the youth with some ideas of men and things, and leave time for an apprenticeship before the age of twenty-one years, would be the most eligible for young men who are designed for active employments.

But the principal defect in our plan of education in America is the want of good teachers in the academies and common schools. By good teachers I mean men of unblemished reputation, and possessed of abilities competent to their station. That a man should be master of what he undertakes to teach is a point that will not be disputed; and yet it is certain that abilities are often dispensed with, either through inattention or fear of expense. To those who employ ignorant men to instruct their children, let me say, it is better for youth to have no education than to have a bad one; for it is more difficult to eradicate habits than to impress new ideas. The tender shrub is easily bent to any figure; but the tree which has acquired its full growth resists all impressions. Yet abilities are not the sole requisites. The instructors of youth ought, of all men, to be the most prudent, accomplished, agreeable, and respectable. What avail a man's parts, if, while he is "the wisest and brightest," he is the "meanest of mankind?" The pernicious effects of bad example on the minds of youth will probably be acknowledged; but, with a view to improvement, it is indispensably necessary that the teachers should possess good breeding and agreeable manners. In order to give full effect to instructions it is requisite that they should proceed from a man who is loved and respected. But a low-bred clown or morose tyrant can command neither love nor respect; and that pupil who has no motive for application to books but the fear of the rod, will not make a scholar.

LETTER FROM REV. HEMAN HUMPHREY, D. D.

PITTSFIELD, December 12th, 1860.

HON. HENRY BARNARD: *Dear Sir*—I am glad to hear from you, still engaged in the educational cause, and that you are intending to "give a picturesque survey of the progress of our common schools, their equipment, studies, and character." If my early recollections and experience will give you any little aid, I shall esteem myself happy in affording it.

The first school I remember was kept a few weeks by a maiden lady, called Miss Faithy, in a barn. I was very young, as were most of the children. What I learned then, if any thing, I have forgotten. This was in the summer, of course. The next was a school, so called, kept a month or two by a neighbor of ours, who was the best *trout fisher*, with his horse-hair line, in all those parts. He wrote a fair hand, as I remember, on birch bark. What he taught

us, but to say *tue* and *due*, has escaped my recollection. We had no school-house then in our district, and we met as much for play as any thing, where we could find shelter. The next winter, another neighbor took us a few weeks into one of the rooms of his own house, where every thing but learning was going on. His speech bewrayed him of Rhode Island origin, and whatever he knew, he certainly could never have had much if any chance of being whipped in school when he was a boy. I remember his tremendous *stamp* when we got noisy in school-time, and that is all. This, however, is not a fair sample of school accommodations in my boyhood; and I had a better chance for two or three winters afterward.

School-houses.

Most of the other districts in the town had school-houses, but not all. The first winter that I kept school myself, was in a room next to the kitchen in a small private house. Some of the school-houses were better than others; but none of them in that or the adjoining towns were convenient or even comfortable. They were rather *juvenile penitentiaries*, than attractive accommodations for study. They were too small, and low from the ceiling to the floor, and the calculation of the builders seemed to have been, to decide into how small a space the children could be crowded, from the fireplace till the room was well packed. Not unfrequently sixty or seventy scholars were daily shut up six hours, where there was hardly room for thirty. The school-houses were square, with a very narrow entry, and a large fireplace on the side near the door. There were no stoves then. They were generally roughly clapboarded, but never painted. They had writing-desks, or rather, long boards for writing, on two or three sides, next to the wall. The benches were all loose; some of them boards, with slabs from the saw-mill, standing on four legs, two at each end. Some were a little lower than the rest, but many of the smaller children had to sit all day with their legs dangling between the bench and the floor. Poor little things! nodding and trying to keep their balance on the slabs, without any backs to lean against, how I pity them to this day. In the coldest weather, it was hard to tell which was the most difficult, to keep from roasting or freezing. For those nearest to the fire it was sweltering hot, while the ink was freezing in the pens on the back side of the room. "*Master*, I am too hot"—"*Master*, may I go to the fire?" That was the style of address in those days, and we did our best to be *masters*, anyhow.

All the school-houses that I remember stood close by the traveled road, without any play-grounds or inclosures whatever. If there were any shade trees planted, or left of spontaneous growth, I have forgotten them. And in most cases, there were no outside accommodations, even the most necessary for a moment's occasion. I now marvel at it, but so it was. In that respect, certainly, the days of the children are better than the days of their fathers were.

For the most part, the winter schools were miserably supplied with wood. I kept school myself in three towns, and in but one of the schools was there any wood-shed whatever; and no wood was got up and seasoned in summer against winter. Most of what we used was standing in the forests when the school began, and was cut and brought sled length by the farmers in proportion to the number of scholars which they sent. Not exactly that, either; for sometimes, when we went to the school-house in a cold morning, there was *no wood* there. Somebody had neglected to bring his load, and we were obliged to adjourn over

to the next day. In many cases, the understanding was, that the larger boys must cut the wood as it was wanted. It always lay in the snow, and sometimes the boys were sent to dig it out in school-time, and bring it in, all wet and green as it was, to keep us from freezing. That was the fuel to make fires with in the morning, when the thermometer was below zero, and how the little children cried with the cold, when they came almost frozen, and found no fire burning; nothing but one or two boys blowing and keeping themselves warm as well as they could, by exercise, in trying to kindle it. Such were our school-houses and their disaccommodations.

Branches Taught.

They were reading, spelling, and writing, besides the A B C's to children scarcely four years old, who ought to have been at home with their mothers. They were called up twice a day by the master pointing with his penknife, "What's that?" "A." "What's that?" "D." "No, it's B." "What's that?" "N." "No, you careless boy, it's C;" and so down to *ezand*. "Go to your seat; you will never learn your lesson in the world, at this rate." Our school-books were the Bible, "Webster's Spelling Book," and "Third Part," mainly. One or two others were found in some schools for the reading classes. Grammar was hardly taught at all in any of them, and that little was confined almost entirely to committing and reciting the rules. Parsing was one of the occult sciences in my day. We had some few lessons in geography, by questions and answers, but no maps, no globes; and as for *blackboards*, such a thing was never thought of till long after. Children's reading and picture-books, we had none; the fables in Webster's Spelling Book came nearest to it. Arithmetic was hardly taught at all in the day schools. As a substitute, there were some evening schools in most of the districts. Spelling was one of the leading daily exercises in all the classes, and it was better, a good deal, I think, than it is now.

The winter schools were commonly kept about three months; in some favored districts *four*, but rarely as long. As none of what are now called the higher branches were taught beyond the merest elements, parents generally thought that three or four months was enough. There were no winter *select* schools for the young above the age of sixteen or seventeen, as I remember, till after I retired from the profession, such as it then was. There may have been here and there an academy, in some parts of the State; but not one within the range of my acquaintance.

Spring Exhibitions.

At the close of the winter schools we had what we used to call our *Quarter-days*, when the schools came together in the meeting-house, with a large congregation of parents and friends. The public exercises were reading, spelling, and speaking single pieces and dialogues. Some of the dialogues we wrote ourselves, for our own schools. Most of them were certainly very flat; but they brought down the house, and answered the purpose as well as any we could pick up. We thought then, as I think now, that those quarter-days were of great advantage to the schools. The anticipation of them kept up an interest all winter, and stimulated both teachers and scholars to do their best in the way of preparation. As the time approached, we had evening schools for reading and rehearsing the dialogues, so as to be sure not to fall behind in the ex-

hibitions. None of our college commencements are now looked forward to with greater interest than were those vernal anniversaries.

Another thing that helped us a good deal was the occasional afternoon visits of the parents and other friends of the schools. They came in by invitation, or whenever they chose, and their visits always did us good.

Still another practice we found to be quite stimulating and useful. We had a mutual understanding that, without giving any notice, any teacher might dismiss his own school for an afternoon, and, taking along with him some of the older boys, call in to see how his brother teacher got along in the next or some other district. The arrangement worked well. We made speeches, complimented one another as politely as circumstances would allow, and went home resolved not to fall behind the best of them.

In the school, we made up our minds to be masters, in *fact* as well as in name. Though of late years I have not had very good advantages for making the comparison, I believe the schools were quite as well governed sixty years ago as they are now. Among other things which we did to maintain our authority, was to go out now and then and have a snowball skirmish with the boys, and though we commonly got beat, nothing we could do was more effectual.

Corporal punishments, I believe, were sparingly resorted to in most of our schools. Though I myself believed in Solomon fully, I never flogged but one scholar in my life, though I shook the mischief out of a great many. I think Sam was of the opinion, in the premises, that the rod was laid on rather smartly, for I understood he promised, some day, to pay me in kind, which, however, I suppose he never found it quite convenient to undertake.

Our schoolmasters within convenient distances used to meet in the winter evenings for mutual improvement, which, to own the truth, we needed a good deal. Our regular exercises were reading for criticisms, reporting how we were getting along, and conversing upon the best method of managing our schools. This was very profitable, as we thought, to us all.

In those ancient times, it was an almost universal custom in the rural towns of Connecticut, for the teachers to *board round*, and upon the whole I liked it. It was a good school for us. By going into all the families we learned a great deal. We were looked upon as having more in our heads than we could fairly claim, and they always kept us on the best they had. It is true, the cooking was not always the best, nor sheets always so clean as to guard against infection; and if, perchance, it sometimes broke out, we knew how to cure it.

Our wages were generally screwed down to the lowest notch by the school committees, under the instruction of the districts. For my first campaign I received *seven* dollars a month and board; for the next, *nine*; for the third, *ten*; and I think I never went above thirteen till quite the last of my teaching before I went to college. As I had some reputation in that line, I suppose I was as well paid as my brethren.

With regard to the summer schools of that period, I have very little to say. They were kept by females upon very low wages, about as much a week as they could earn in families by spinning or weaving. They took good care of the little children, and taught them as well as they could.

As we had no grammar schools in which the languages were taught, we most

of us fitted for college with our ministers, who, though not very fresh from their classics, did what they could to help us.

Finally, you ask me whether there were any schools for young ladies in those old times? There may possibly have been in two or three of the largest towns, but the only one of which I had any knowledge was in Litchfield, kept by Miss Pierce, and I am not quite sure that her school was established as early as your question contemplates.

These, dear sir, are some of my old remembrances, which you may make such use of as you please.

Respectfully yours,

H. HUMPHREY.

LETTER FROM THE HON. JOSEPH T. BUCKINGHAM.

CAMBRIDGE, December 10th, 1860.

HENRY BARNARD, ESQ.: *My Dear Sir*—I cheerfully comply with your request to give you some account of the schools and the educational books that were in use about the close of the last century. I never had the privilege of attending any higher institution of learning than the common district schools of Connecticut, in the town of Windham; but I have no doubt that those of that town were a fair type of many others, probably most of them, except such as were kept in the larger towns or thickly populated villages.

According to the best of my remembrance, my school-days began in the spring of 1783. The school to which I was admitted was kept by a lady, and, like most of the district schools, was kept only for the younger pupils, and was open for two months during the summer season. The upper class in the school was formed entirely of females—such as could read in the Bible. The lower classes read in spelling books and the New England Primer. The spelling books, of which there were not, probably, more than three or four in the school, I believe were all by Dilworth, and were much worn and defaced, having been a sort of heir-loom in the families of the pupils. The teacher of this school was the daughter of the minister of the parish. She kept a rod hanging on the wall behind her chair and a ferule on the table by her side; but I do not recollect that she used either of them. The girls who constituted the first class were required, every Monday morning, to repeat the text or texts of the preceding day's discourse, stating the book, chapter, and verse whence it was taken. The next summer, 1784, the same lady, or one of her sisters, kept school in the same district. The same books were in use, and there was the same routine of exercises. It was kept on the first floor of the steeple. The lower end of the bell-rope lay in a coil in the center of the floor. The discipline was so strict, that no one, however mischievously disposed, I believe, ever thought of taking hold of it, though it was something of an incumbrance. I was then four years and a half old, and had learned *by heart* nearly all the reading lessons in the Primer, and much of the Westminster Catechism, which was taught as the closing exercise every Saturday. But justice to one of the best of mothers requires that I should say that much the greater part of the improvement I had made was acquired from her careful instruction.

In December, 1784, the month in which I was five years old, I attended, for a few days, the school kept by a master—I do not remember his name. When asked up for examination, he asked me if I could read without spelling? I said

I could read in the Bible. He hesitated a moment, and then placed me on one of the benches, opened a Bible at the fifth chapter of Acts, and asked me to read. I read ten or a dozen verses—being the account of Ananias and his wife falling dead before Peter for telling a lie. Whether he had any suspicion that I had told a falsehood, and took this method to reprove me, I know not; but he dismissed me with approbation. He used his ferule on the hands of some of the elder boys; but the severest punishment that he inflicted for any violation of order, was compelling a boy who had brought into the school the breastbone of a chicken, (commonly called the *wishing-bone*), and with which he had excited some noise among the pupils, to stand on one of the benches and wear the bone on his nose till the school was dismissed. I am strongly impressed with the belief that Webster's Spelling Book made its first appearance in the schools during this winter. The following summer I attended, but very irregularly, a school kept as before in the steeple of the meeting-house,* and had a copy of Webster. Whether there were any other copies in the school or not I am not able to say. The next two winters, circumstances which I have no desire to recall, and which you would not care to be acquainted with, prevented my attending any school. In the summer of 1786, these same circumstances caused me to be removed to another district three miles distant from the central village. The farmer with whom I lived thought I could read well enough, and as the district school-house was a mile or more distant, he considered it unnecessary to send me that distance in the winter, merely to read; and consequently for two or three winters I went to school not more than eight or ten days in each. At length, in 1790 or 1791, it was thought I was old enough to learn to cipher, and accordingly was permitted to go to school more constantly. I told the master I wanted to learn to cipher. He set me a *sum* in simple addition—five columns of figures, and six figures in each column. All the instruction he gave me was—add the figures in the first column, carry one for every ten, and set the overplus down under the column. I supposed he meant by the first column the left hand column; but what he meant by carrying one for every ten was as much a mystery as Samson's riddle was to the Philistines. I worried my brains an hour or two, and showed the master the figures I had made. You may judge what the amount was, when the columns were added from left to right. The master frowned and repeated his former instruction—added up the column on the right, carry one for every ten, and set down the remainder. Two or three afternoons (I did not go to school in the morning) were spent in this way, when I begged to be excused from learning to cipher, and the old gentleman with whom I lived thought it was time wasted; and if I attended the school any further at that time, reading and spelling, and a little writing were all that was taught. The next winter there was a teacher more communicative and better fitted for his place, and under him some progress was made in arithmetic, and I made a tolerable acquisition in the first four rules, according to Dilworth's Schoolmaster's Assistant, of which the teacher and one of the eldest boys had each a copy. The two following winters, 1794 and 1795, I mastered all the rules and examples in the first part of Dilworth; that is, through the various chapters of Rule of Three, Practice, Fellowship, Interest, etc., etc., to Geometrical Progression and Permutation.

In our district, the books were of rather a miscellaneous character, such as

* This was the last time I went to a summer school.

had been in families perhaps half a century or more. My belief is that Webster's Spelling Book was not in general use before 1790 or 1791. The Bible was read by the first class in the morning, always, and generally in the afternoon before the closing exercise, which was always a lesson in spelling, and this was performed by all the pupils who were sufficiently advanced to pronounce distinctly words of more than one syllable. It was the custom for all such pupils to stand together as one class, and with *one voice* to read a column or two of the tables for spelling. The master gave the signal to begin, and all united to read, letter by letter, pronouncing each syllable by itself, and adding it to the preceding one till the word was complete. Thus, a-d *ad*, m-i *mi*, ad-mi, r-a *ra*, ad-mi-r-a-t-i-o-n *shun*, *admiration*. This mode of reading was exceedingly exciting, and, in my humble judgment, exceedingly useful; as it required and taught deliberate and distinct articulation, and inspired the youngest with a desire to equal the older ones. It is true the voices would not all be in perfect unison; but after a little practice they began to assimilate. I have heard a class of thirty or more read column after column in this manner, with scarcely a perceptible variation from the proper pitch of voice. When the lesson had been thus read, the books were closed, and the words given out for spelling. If one was misspelt, it passed on to the next, and the next pupil in order, and so on till it was spelt correctly. Then the pupil who had spelt correctly went up in the class above the one who had misspelt. It was also a practice, when one was absent from this exercise in spelling, that he should stand at the foot of the class when he returned. Another of our customs was to choose sides to spell once or twice a week. The words to be spelt went from side to side; and at the conclusion, the side which *beat* (spelt the most words) were permitted to leave the school-room, preceding the other side, who had to sweep the room and build the fires the next morning. These customs, prevalent sixty and seventy years ago, excited emulation, and emulation produced improvement. A revival of them, I have no doubt, would be advantageous in the common schools, especially where pupils are required to spell words given out indiscriminately from a reading book or dictionary. There was not, to my knowledge, any *reading book* proper, except the Bible, till Webster's Third Book, so called, came out about 1793 or 1794. A new edition of his Spelling Book furnished some new matter for reading—selections from the *New Testament*, a chapter of *Proverbs*, and set of *Tables*, etc.; but none of these operated to the exclusion of the Bible.

In the family in which I lived there were three or four old spelling books, which I presume had been used in schools before the period of my remembrance. One of these was a book of less than a hundred pages, printed in London, I think in 1699. The words were arranged in tables according to syllables. The terminations *tion*, *sion*, *cial*, *tial*, etc., were all divided and printed as two distinct syllables. (And I believe this mode of printing is still continued in England. It was in the time of Lindley Murray, as may be seen in his spelling book, printed about forty years ago.) This spelling book contained a numeration table which, from a singular feature, early attracted my attention. Every figure was 9, and the whole formed a curious triangle. Thus:

9	
99	
999	and so on to
the last, 999,999,999	

Another spelling book in our farmer's library was by Daniel Fenning, printed in London. It contained a short treatise on grammar, on which I sometimes exercised my memory, but understood not one of its principles. We had also a Dilworth, containing certain fables—such as Jupiter and the Frogs, the Romish Priest and the Jester, Hercules and the Wagoner, etc., etc. Another still we had, the author of which I never knew, as several pages had been lost from the beginning. It had a page of proverbs, one of which—"a cat may look upon a king"—occasioned me much thoughtful exercise. It also had an appropriate collection of couplets for writing-copies, of which the only one I recollect was this:

"X things a penman should have near at hand—

Paper, pounce, pen, ink, knife, hone, rule, plummet, wax, sand."

But that which rendered the book so memorable as never to be forgotten, was the astonishing, if not terrific, word of fourteen syllables—"Ho-no-ri-fi-ca-bi-li-tu-di-ni-tu-ti-bus-que"—asserted to be the longest word in the English language.

In the winter of 1793-4, we had for a teacher ERASTUS RIPLEY, an undergraduate of Yale College. I mention his name, because I can not but look back upon the time when I had the advantage of his instruction without a feeling of reverence for the man and respect for the teacher. I learned more from him than all the schoolmasters I had been under. He took more pains to instruct us in reading than all his predecessors within my knowledge. He opened the school every morning with prayer—which had not been practiced in our district. He was preparing for the ministry, and was afterwards settled at Canterbury, I think. He was highly esteemed by all the people of the district, and gave such an *impetus* to the ambition of the pupils, that a subscription was made to employ him an extra month after the usual term of the school had expired.

Mr. Ripley was succeeded in the winter of 1794-5 by a young man from Lebanon by the name of Tisdale, under whom my school-days were finished; and here I may bring this long and, I fear, very uninteresting letter to a close. Hoping this may serve the purpose for which you suggested the writing of it, and wishing you all the success you can desire in the noble cause in which you are engaged.

I am, very respectfully and truly yours,

JOSEPH T. BUCKINGHAM.

LETTER FROM REV. KLIPHALET NOTT, D. D., DATED JAN., 1861.

When I was a boy, seventy-five or eighty years ago, in good old Puritan Connecticut, it was *felt* as a practical maxim "that to spare the rod was to spoil the child;" and on this maxim the pedagogue acted in the school-room, and applied it for every offense, real or imaginary: and for having been whipped at school by the relentless master, the unfortunate tyro was often whipped at home by his no less relentless father; so that between the two relentless executors of justice among the Puritan fathers, few children, I believe, were spoiled by the withholding of this orthodox discipline. For myself, I can say (and I do not think I was wayward beyond the average of district school-boys) that, in addition to warnings, and admonitions daily, if I was not whipped more than three times a week, I considered myself for the time peculiarly fortunate.

Being of a contemplative and forbearing disposition, this discipline of the rod

became peculiarly irksome to me, and, as I thought, unjustifiable; and I formed a resolution, if I lived to be a man, I would not be like other men in regard to their treatment of children.

Through the mercy of God I did live to be a man, and when at the age of eighteen I became installed as master of a district school in the eastern part of Franklin, Connecticut—a school where rebellious spirits had previously asserted their rights, and been subdued or driven from the school by the use of the rod—nothing daunted, I made up my mind to substitute in my school moral motives in the place of the rod; and I frankly told my assembled pupils so, and that if they would have the generosity to second my efforts, they would secure to themselves and furnish me and their parents the happiness which is the heavenly-appointed reward of well-doing.

The school responded to my appeal, and thereafter, though we played and gamboled together as equals in play-hours, and on Saturday afternoons, which were also devoted to play, the moment we entered the school-room, a subordination and application to study was observable, that became matter of remark and admiration among the inhabitants of the district, the fame of which success extended to other districts, and even to adjoining towns, so that the examination and exhibition with which the school closed the ensuing spring, called together clergymen and other officials from places quite remote.

This success brought me to the knowledge of the trustees of the Plainfield Academy, one of the most important, if not at the time the most important academy in the State, and I was by a unanimous vote appointed principal of said academy—an institution in which several hundred children of both sexes were in the same building successfully taught and governed for years, without the use of the rod, it being at that time the prevailing usage, both in district schools and academies, for the two sexes to be taught in the same room, and subjected to the same form of government.

This successful experiment in the use of moral suasion, and other kindred and kindly influences, in place of the rod, led to other and kindred experiments, until, whether for the better or the worse, the rod at length came to occupy a very subordinate place in the system of school education.

In those days, education in common schools was not so diffusive as at the present day; but quite as thorough, if not more so. The same remark may be applied to the higher schools or academies—the whole field of natural science being at that time, for the most part, unexplored; but mathematics and classics were zealously taught. In evidence of this, though inferior in attainments to some of my classmates, I published successfully myself an almanac when about twenty-one years of age.

As the rod in those days was the principal instrument in common school education, so, when I was afterward called to Union College, fines, suspensions, and expulsions were the principal instruments of collegiate government. The faculty sat in their robes as a court, caused offenders to be brought before them, examined witnesses, heard defenses, and pronounced sentences with the solemnity of other courts of justice: and though Union College had on its catalogue but a very diminutive number of students, the sitting of the faculty as a court occupied no inconsiderable part of the time of its president and professors.

Soon after I became connected with the college as its president, a case of discipline occurred which led to the trial and issued in the expulsion of a student.

belonging to a very respectable family in the city of Albany. According to the charter of Union College, the sentence of the faculty is not final. An appeal can be taken to the board of trustees, and in the case in question an appeal was taken, and, after keeping college in confusion for months, by the different hearings of the case, the board reversed the decision of the faculty, and restored the young man. On the event of this restoration, I informed them that they should never, during my administration, have occasion to review another case of discipline by the faculty; and during the fifty-six years which have since passed away, I have kept my word; and though we have been less successful in our system of parental government than could be wished, we have had no rebellions, and it is conceded, I believe generally, that quite as large a proportion of our young men have succeeded in after life as of any other collegiate institution in the Union.

RECOLLECTIONS OF PETER PARLEY.

The following picture of the District School as it was a few years later, in the town of Ridgefield,* one of the most advanced agricultural communities of Connecticut, is from the pen of Peter Parley, [SAMUEL G. GOODRICH,] in his "*Recollections of a Lifetime.*"

About three-fourths of a mile from my father's house, on the winding road to Lower Salem, which bore the name of West Lane, was the school-house where I took my first lessons, and received the foundations of my very slender education. I have since been sometimes asked where I graduated: my reply has always been, "At West Lane." Generally speaking, this has ended the inquiry, whether because my interlocutors have confounded this venerable institution with "Lane Seminary," or have not thought it worth while to risk an exposure of their ignorance as to the college in which I was educated, I am unable to say.

The site of the school-house was a triangular piece of land, measuring perhaps a rood in extent, and lying, according to the custom of those days, at the meeting of four roads. The ground hereabouts—as everywhere else in Ridgefield—was exceedingly stony, and in making the pathway the stones had been thrown out right and left, and there remained in heaps on either side, from generation to generation. All round was bleak and desolate. Loose, squat stone walls, with innumerable breaches, inclosed adjacent fields. A few tufts of elder, with here and there a patch of briars and poke-weed, flourished in the gravelly soil. Not a tree, however, remained, save an aged chestnut, at the

* Nearly all the inhabitants of Ridgefield were farmers, with the few mechanics that were necessary to carry on society in a somewhat primeval state. Even the persons not professionally devoted to agriculture, had each his farm, or at least his garden and home lot, with his pigs, poultry, and cattle. The population might have been 1,500, comprising 200 families. All could read and write, but in point of fact, beyond the *Almanac* and *Watts' Psalms and Hymns*, their literary acquirements had little scope. There were, I think, four newspapers, all weekly, published in the State: one at Hartford, one at New London, one at New Haven, and one at Litchfield. There were, however, not more than three subscribers to all these in our village. We had, however, a public library of some 200 volumes, and what was of equal consequence—the town was on the road which was then the great thoroughfare, connecting Boston with New York, and hence it had means of intelligence from travelers constantly passing through the place, which kept it up with the march of events.

western angle of the space. This certainly had not been spared for shade or ornament, but probably because it would have cost too much labor to cut it down, for it was of ample girth. At all events it was the oasis in our desert during summer; and in autumn, as the burrs disclosed its fruit, it resembled a besieged city. The boys, like so many catapults, hurled at it stones and sticks, until every nut had capitulated.

Two houses only were at hand: one, surrounded by an ample barn, a teeming orchard, and an enormous wood-pile, belonged to Granther Baldwin; the other was the property of "Old Chich-es-ter," an uncouth, unsocial being, whom everybody for some reason or other seemed to despise and shun. His house was of stone and of one story. He had a cow, which every year had a calf. He had a wife—filthy, uncombed, and vaguely reported to have been brought from the old country. This is about the whole history of the man, so far as it is written in the authentic traditions of the parish. His premises, an acre in extent, consisted of a tongue of land between two of the converging roads. No boy, that I ever heard of, ventured to cast a stone or to make an incursion into this territory, though it lay close to the school-house. I have often, in passing, peeped timidly over the walls, and caught glimpses of a stout man with a drab coat, drab breeches, and drab gaiters, glazed with ancient grease and long abrasion, prowling about the house; but never did I discover him outside of his own dominion. I know it was darkly intimated that he had been a tory, and was tarred and feathered in the revolutionary war, but as to the rest he was a perfect myth. Granther Baldwin was a character no less marked, but I must reserve his picture for a subsequent letter.

The school-house itself consisted of rough, unpainted clapboards, upon a wooden frame. It was plastered within, and contained two apartments—a little entry, taken out of a corner for a wardrobe, and the school-room proper. The chimney was of stone, and pointed with mortar, which, by the way, had been dug into a honeycomb by uneasy and enterprising penknives. The fireplace was six feet wide and four feet deep. The flue was so ample and so perpendicular, that the rain, sleet, and snow fell direct to the hearth. In winter, the battle for life with green fizzling fuel, which was brought in sled lengths and cut up by the scholars, was a stern one. Not unfrequently, the wood, gushing with sap as it was, chanced to be out, and as there was no living without fire, the thermometer being ten or twenty degrees below zero, the school was dismissed, whereat all the scholars rejoiced aloud, not having the fear of the school-master before their eyes.

It was the custom at this place to have a woman's school in the summer months, and this was attended only by young children. It was, in fact, what we now call a primary or infant school. In winter, a man was employed as teacher, and then the girls and boys of the neighborhood, up to the age of eighteen, or even twenty, were among the pupils. It was not uncommon, at this season, to have forty scholars crowded into this little building.

I was about six years old when I first went to school. My teacher was Aunt Delight, that is, Delight Benedict, a maiden lady of fifty, short and bent, of sallow complexion and solemn aspect. I remember the first day with perfect distinctness. I went alone—for I was familiar with the road, it being that which passed by our old house. I carried a little basket, with bread and butter within, for my dinner, the same being covered over with a white cloth. When I

had proceeded about half way, I lifted the cover, and debated whether I would not eat my dinner then. I believe it was a sense of duty only that prevented my doing so, for in those happy days I always had a keen appetite. Bread and butter were then infinitely superior to *paté de foie gras* now; but still, thanks to my training, I had also a conscience. As my mother had given me the food for dinner, I did not think it right to convert it into lunch, and even though I was strongly tempted.

I think we had seventeen scholars—boys and girls—mostly of my own age. Among them were some of my after companions. I have since met several of them—one at Savannah, and two at Mobile, respectably established, and with families around them. Some remain, and are now among the gray old men of the town; the names of others I have seen inscribed on the tombstones of their native village. And the rest—where are they?

The school being organized, we were all seated upon benches, made of what were called *slabs*—that is, boards having the exterior or rounded part of the log on one side: as they were useless for other purposes, these were converted into school-benches, the rounded part down. They had each four supports, consisting of straddling wooden legs, set into auger holes. Our own legs swayed in the air, for they were too short to touch the floor. Oh, what an awe fell over me, when we were all seated and silence reigned around!

The children were called up, one by one, to Aunt Delight, who sat on a low chair, and required each, as a preliminary, to make his manners, consisting of a small sudden nod or jerk of the head. She then placed the spelling-book—which was Dilworth's—before the pupil, and with a buck-handled penknife pointed, one by one, to the letters of the alphabet, saying, "What's that?" If the child knew his letters the "What's that?" very soon ran on thus:

"What's that?"

"A."

"'Stha-a-t?"

"B."

"'Sna-a-a-t?"

"C."

"'Sna-a-a-t?"

"D."

"'Sna-a-a-t?"

"E." &c.

I looked upon these operations with intense curiosity and no small respect, until my own turn came. I went up to the schoolmistress with some emotion, and when she raid, rather spitefully, as I thought, "Make your obeisance!" my little intellects all fled away, and I did nothing. Having waited a second, gazing at me with indignation, she laid her hand on the top of my head, and gave it a jerk which made my teeth clash. I believe I bit my tongue a little; at all events, my sense of dignity was offended, and when she pointed to A, and asked what it was, it swam before me dim and hazy, and as big as a full moon. She repeated the question, but I was doggedly silent. Again, a third time, she said, "What's that?" I replied: "Why don't you tell me what it is? I didn't come here to learn you your letters!" I have not the slightest remembrance of this, for my brains were all a-wool-gathering; but as Aunt Delight affirmed it to be a fact, and it passed into tradition, I put it in. I may have told this

story some years ago in one of my books, imputing it to a fictitious hero, yet this is its true origin, according to my recollection.

What immediately followed I do not clearly remember, but one result is distinctly traced in my memory. In the evening of this eventful day, the school-mistress paid my parents a visit, and recounted to their astonished ears this, my awful contempt of authority. My father, after hearing the story, got up and went away; but my mother, who was a careful disciplinarian, told me not to do so again! I always had a suspicion that both of them smiled on one side of their faces, even while they seemed to sympathize with the old petticoat and penknife pedagogue, on the other; still I do not affirm it, for I am bound to say, of both my parents, that I never knew them, even in trifles, say one thing while they meant another.

I believe I achieved the alphabet that summer, but my after progress, for a long time, I do not remember. Two years later I went to the winter-school at the same place, kept by Lewis Olmstead—a man who had a call for plowing, mowing, carting manure, etc., in summer, and for teaching school in the winter, with a talent for music at all seasons, wherefore he became chorister upon occasion, when, peradventure, Deacon Hawley could not officiate. He was a celebrity in ciphering, and 'Squire Seymour declared that he was the greatest "arithmeticker" in Fairfield county. All I remember of his person is his hand, which seemed to me as big as Goliath's, judging by the claps of thunder it made in my ears on one or two occasions.

The next step of my progress which is marked in my memory, is the spelling of words of two syllables. I did not go very regularly to school, but by the time I was ten years old I had learned to write, and had made a little progress in arithmetic. There was not a grammar, a geography, or a history of any kind in the school. Reading, writing, and arithmetic were the only things taught, and these very indifferently—not wholly from the stupidity of the teacher, but because he had forty scholars, and the standards of the age required no more than he performed. I did as well as the other scholars, certainly no better. I had excellent health and joyous spirits; in leaping, running, and wrestling, I had but one superior of my age, and that was Stephen Olmstead, a snug-built fellow, smaller than myself, and who, despite our rivalry, was my chosen friend and companion. I seemed to live for play: alas! how the world has changed since I have discovered that we live to agonize over study, work, care, ambition, disappointment, and then —?

As I shall not have occasion again, formally, to introduce this seminary into my narrative, I may as well close my account of it now. After I had left my native town for some twenty years, I returned and paid it a visit. Among the monuments that stood high in my memory was the West Lane school-house. Unconsciously carrying with me the measures of childhood, I had supposed it to be at least thirty feet square; how had it dwindled when I came to estimate it by the new standards I had formed! It was in all things the same, yet wholly changed to me. What I had deemed a respectable edifice, as it now stood before me was only a weather-beaten little shed, which, upon being measured, I found to be less than twenty feet square. It happened to be a warm, summer day, and I ventured to enter the place. I found a girl, some eighteen years old, keeping "a ma'am school" for about twenty scholars, some of whom were studying Parley's Geography. The mistress was the daughter of one of my schoolmates, and some of the

boys and girls were grandchildren of the little brood which gathered under the wing of Aunt Delight, when I was an a-b-c-darian. None of them, not even the schoolmistress, had ever heard of me. The name of my father, as having ministered unto the people of Ridgefield in some bygone age, was faintly traced in their recollection. As to Peter Parley, whose Geography they were learning—they supposed him some decrepit old gentleman hobbling about on a crutch, a long way off, for whom, nevertheless, they had a certain affection, inasmuch as he had made geography into a story-book. The frontispiece-picture of the old fellow, with his gouty foot in a chair, threatening the boys that if they touched his tender toe, he would tell them no more stories, secured their respect, and placed him among the saints in the calendar of their young hearts. Well, thought I, if this goes on I may yet rival Mother Goose!

At the age of ten years I was sent to the up-town school, the leading seminary of the village, for at this period it had not arrived at the honor of an academy, the institution being then, and many years after, under the charge of Master Stebbins. He was a man with a conciliating stoop in the shoulders, a long body, short legs, and a swaying walk. He was, at this period, some fifty years old, his hair being thin and silvery, and always falling in well-combed rolls over his coat-collar. His eye was blue, and his dress invariably of the same color. Breeches and knee-buckles, blue-mixed stockings, and shoes with bright buckles, seemed as much a part of the man as his head and shoulders. On the whole, his appearance was that of the middle-class gentleman of the olden time, and he was in fact what he seemed.

This seminary of learning for the rising aristocracy of Ridgefield was a wooden edifice, thirty by twenty feet, covered with brown clapboards, and, except an entry, consisted of a single room. Around and against the walls ran a continuous line of seats, fronted by a continuous writing-desk. Beneath, were depositories for books and writing materials. The center was occupied by slab seats, similar to those of West Lane. The larger scholars were ranged on the outer sides, at the desks; the smaller fry of a-b-c-darians were seated in the center. The master was enshrined on the east side of the room, contrary, be it remembered, to the law of the French savans, which places dominion invariably in the west. Regular as the sun, Master Stebbins was in his seat at nine o'clock, and the performances of the school began.

According to the Catechism—which, by the way, we learned and recited on Saturday—the chief end of man was to glorify God and keep his commandments: according to the routine of this school, one would have thought it to be reading, writing, and arithmetic, to which we may add spelling. From morning to night, in all weathers, through every season of the year, these exercises were carried on with the energy, patience, and perseverance of a manufactory.

Master Stebbins respected his calling: his heart was in his work; and so, what he pretended to teach, he taught well. When I entered the school, I found that a huge stride had been achieved in the march of mind since I had left West Lane. Webster's Spelling Book had taken the place of Dilworth, which was a great improvement. The drill in spelling was very thorough, and applied every day to the whole school. I imagine that the exercises might have been amusing to a stranger, especially as one scholar would sometimes go off in a voice as grum as that of a bull-frog, while another would follow in tones as fine and piping as a poet-wren. The blunders, too, were often ineffably ludicrous; even

we children would sometimes have tittered, had not such an enormity been certain to have brought out the birch. As to rewards and punishments, the system was this: whoever missed went down; so that perfection mounted to the top. Here was the beginning of the up and down of life.

Reading was performed in classes, which generally plodded on without a hint from the master. Nevertheless, when Zeek Sanford—who was said to have a streak of lightning in him—in his haste to be smart, read the 37th verse of the 2nd chapter of the Acts—"Now when they heard this, they were *picked* in their heart"—the birch stick on Master Stebbins's table seemed to quiver and peel at the little end, as if to give warning of the wrath to come. When Orry Keeler—Orry was a girl, you know, and not a boy—drawled out in spelling: k—o—n, *kon*, s—h—u—n—t—s, *shunts*, *konshunts*—the bristles in the master's eyebrows sidged like Aunt Delight's knitting needles. Occasionally, when the reading was insupportably bad, he took a book and read himself, as an example.

We were taught arithmetic in Daboll, then a new book, and which, being adapted to our measures of length, weight, and currency, was a prodigious leap over the head of poor old Dilworth, whose rules and examples were modeled upon English customs. In consequence of the general use of Dilworth in our schools, for perhaps a century—pounds, shillings, and pence were classical, and dollars and cents vulgar, for several succeeding generations. "I would not give a penny for it," was genteel; "I would not give a cent for it," was plebeian. We have not yet got over this: we sometimes say *red cent* in familiar parlance, but it can hardly be put in print without offense.

Master Stebbins was a great man with a slate and pencil, and I have an idea that we were a generation after his own heart. We certainly achieved wonders according to our own conceptions, some of us going even beyond the Rule of Three, and making forays into the mysterious region of Vulgar Fractions. Several daring geniuses actually entered and took possession.

But after all, penmanship was Master Stebbin's great accomplishment. He had no magniloquent system; no pompous lessons upon single lines and bifid lines, and the like. The revelations of inspired copy-book makers had not then been vouchsafed to man. He could not cut an American eagle with a single flourish of a goose-quill. He was guided by good taste and native instinct, and wrote a smooth round hand, like copper-plate. His lessons from A to Z, all written by himself, consisted of pithy proverbs and useful moral lessons. On every page of our writing-books he wrote the first line himself. The effect was what might have been expected—with such models, patiently enforced, nearly all became good writers.

Beyond these simple elements, the Up-town school made few pretensions. When I was there, two Webster's Grammars and one or two Dwight's Geographies were in use. The latter was without maps or illustrations, and was in fact little more than an expanded table of contents, taken from Morse's Universal Geography—the mammoth monument of American learning and genius of that age and generation. The grammar was a clever book; but I have an idea that neither Master Stebbins nor his pupils ever fathomed its depths. They floundered about in it, as if in a quagmire, and after some time came out pretty nearly where they went in, though perhaps a little obfuscated by the dim and dusky atmosphere of these labyrinths.

The fact undoubtedly is, that the art of teaching, as now understood, beyond the simplest elements, was neither known nor deemed necessary in our country schools in their day of small things. Repetition, drilling, line upon line, and precept upon precept, with here and there a little of the birch—constituted the entire system.

Let me here repeat an anecdote, which I have indeed told before, but which I had from the lips of its hero, G. . . . H. . . , a clergyman of some note thirty years ago, and which well illustrates this part of my story. At a village school, not many miles from Ridgefield, he was put into Webster's Grammar. Here he read, "*A noun is the name of a thing—as horse, hair, justice.*" Now, in his innocence, he read it thus: "*A noun is the name of a thing—as horse-hair justice.*"

"What then," said he, ruminating deeply, "is a noun? But first I must find out what a horse-hair justice is."

Upon this he meditated for some days, but still he was as far as ever from the solution. Now his father was a man of authority in those parts, and moreover he was a justice of the peace. Withal, he was of respectable ancestry, and so there had descended to him a somewhat stately high-backed settee, covered with horse-hair. One day, as the youth came from school, pondering upon the great grammatical problem, he entered the front door of the house, and there he saw before him, his father, officiating in his legal capacity, and seated upon the old horse-hair settee. "I have found it!" said the boy to himself, as greatly delighted as was Archimedes when he exclaimed *Eureka*—"my father is a horse-hair justice, and therefore a noun!"

Nevertheless, it must be admitted that the world got on remarkably well in spite of this narrowness of the country schools. The elements of an English education were pretty well taught throughout the village seminaries of Connecticut, and I may add, of New England. The teachers were heartily devoted to their profession: they respected their calling, and were respected and encouraged by the community. They had this merit, that while they attempted but little, that, at least, was thoroughly performed.

As to the country at large, it was a day of quiet, though earnest action: Franklin's spirit was the great "schoolmaster abroad"—teaching industry, perseverance, frugality, and thrift, as the end and aim of ambition. The education of youth was suited to what was expected of them. With the simple lessons of the country schools, they moved the world immediately around them. Though I can recollect only a single case—that already alluded to of Ezekiel Sanford—in which one of Master Stebbins's scholars attained any degree of literary distinction, still, quite a number of them, with no school learning beyond what he gave them, rose to a certain degree of eminence. His three sons obtained situations in New York as accountants, and became distinguished in their career. At one period there were three graduates of his school, who were cashiers of banks in that city. My mind adverts now with great satisfaction to several names among the wealthy, honorable, and still active merchants of the great metropolis, who were my fellow-students of the Up-town school, and who there began and completed their education."

To the advantages, such as they were, of the district school, Mr. Goodrich adds an account of his experience on the farm, and his

juvenile sports, as well as his early attempts at *whittling* and other mechanical arts and adds the following reflections :—

Now all these things may seem trifles, yet in a review of my life, I deem them of some significance. This homely familiarity with the more mechanical arts was a material part of my education; this communion with nature gave me instructive and important lessons from nature's open book of knowledge. My technical education, as will be seen hereafter, was extremely narrow and irregular. This defect was at last partially supplied by the common-place incidents I have mentioned. The teaching, or rather the training of the senses, in the country—ear and eye, foot and hand, by running, leaping, climbing over hill and mountain, by occasional labor in the garden and on the farm, and by the use of tools—and all this in youth, is sowing seed which is repaid largely and readily to the hand of after-cultivation, however unskillful it may be. This is not so much because of the amount of knowledge available in after-life, which is thus obtained—though this is not to be despised—as it is that healthful, vigorous, manly habits and associations—physical, moral, and intellectual—are thus established and developed.

It is a riddle to many people that the emigrants from the country into the city, in all ages, outstrip the natives, and become their masters. The reason is obvious: country education and country life are practical, and invigorating to body and mind, and hence those who are thus qualified triumph in the race of life. It has always been, it will always be so; the rustic Goths and Vandals will march in and conquer Rome, in the future, as they have done in the past. I say this, by no means insisting that my own life furnishes any very striking proof of the truth of my remarks; still, I may say that but for the country training and experience I have alluded to, and which served as a foothold for subsequent progress, I should have lingered in my career far behind the humble advances I have actually made.

Let me illustrate and verify my meaning by specific examples. In my youth I became familiar with every bird common to the country: I knew his call, his song, his hue, his food, his habits; in short, his natural history. I could detect him by his flight, as far as the eye could reach. I knew all the quadrupeds—wild as well as tame. I was acquainted with almost every tree, shrub, bush, and flower, indigenous to the country; not botanically, but according to popular ideas. I recognized them instantly, wherever I saw them; I knew their forms, hue, leaves, blossoms, and fruit. I could tell their characteristics, their uses, the legends and traditions that belonged to them. All this I learned by familiarity with these objects; meeting with them in all my walks and rambles, and taking note of them with the emphasis and vigor of early experience and observation. In after days, I have never had time to make natural history systematic study; yet my knowledge as to these things has constantly accumulated, and that without special effort. When I have traveled in other countries, the birds, the animals, the vegetation, have interested me as well by their resemblances as their differences, when compared with our own. In looking over the pages of scientific works on natural history, I have always read with eagerness and intelligence of preparation; indeed, of vivid and pleasing associations. Every idea I had touching these matters was living and sympathetic, and beckoned other ideas to it, and these again originated still others. Thus it is

that in the race of a busy life, by means of a homely, hearty start at the beginning, I have, as to these subjects, easily and naturally supplied, in some humble degree, the defects of my irregular education, and that too, not by a process of repulsive toil, but with a relish superior to all the seductions of romance. I am therefore a believer in the benefits accruing from simple country life and simple country habits, as here illustrated, and am, therefore, on all occasions anxious to recommend them to my friends and countrymen. To city people, I would say, educate your children, at least partially, in the country, so as to imbue them with the love of nature, and that knowledge and training which spring from simple rustic sports, exercises, and employments. To country people, I would remark, be not envious of the city, for in the general balance of good and evil, you have your full portion of the first, with a diminished share of the last.

THE HOMESPUN ERA OF COMMON SCHOOLS.

The Rev. Horace Bushnell, D. D., of Hartford, a native of the Parish of New Preston, "composed of the corners of three towns, (Washington, Woodbury, and New Milford,) and the ragged ends and corners of twice as many mountains and stony-sided hills," in a Discourse pronounced at the Centennial Celebration of Litchfield County in 1851, thus describes the schools of his boyhood.

But the schools—we must not pass by these, if we are to form a truthful and sufficient picture of the homespun days. The schoolmaster did not exactly go round the district to fit out the children's minds with learning, as the shoemaker often did to fit their feet with shoes, or the tailors to measure and cut for their bodies; but, to come as near it as possible, he boarded round, (a custom not yet gone by,) and the wood for the common fire was supplied in a way equally primitive, viz., by a contribution of loads from the several families, according to their several quantities of childhood. The children were all clothed alike in homespun; and the only signs of aristocracy were, that some were clean and some a degree less so, some in fine white and striped linen, some in brown tow crash; and, in particular, as I remember, with a certain feeling of quality I do not like to express, the good fathers of some testified the opinion they had of their children, by bringing fine round loads of hickory wood to warm them, while some others, I regret to say, brought only scanty, scraggy, ill-looking heaps of green oak, white birch, and heaps of green oak, white birch, and hemlock. Indeed, about all the bickerings of quality among the children, centered in the quality of the wood pile. There was no complaint, in those days, of the want of ventilation; for the large open fireplace held a considerable fraction of a cord of wood, and the windows took in just enough air to supply the combustion. Besides, the bigger lads were occasionally ventilated, by being sent out to cut wood enough to keep the fire in action. The seats were made of the outer slabs from the saw-mill, supported by slant legs driven into and a proper distance through auger holes, and planed smooth on the top by the rather tardy process of friction. But the spelling went on bravely, and we ciphered away again and again, always till we got through Loss and Gain. The more advanced of us, too, made light work of Lindley Murray, and went on to the parsing,

finally, of extracts from Shakspeare and Milton, till some of us began to think we had mastered their tough sentences in a more consequential sense of the term than was exactly true. Oh, I remember (about the remotest thing I can remember) that low seat, too high, nevertheless, to allow the feet to touch the floor, and that friendly teacher who had the address to start a first feeling of enthusiasm and awaken the first sense of power. He is living still, and whenever I think of him, he rises up to me in the far background of memory, as bright as if he had worn the seven stars in his hair. (I said he is living; yes, he is here to-day, God bless him!) How many others of you that are here assembled, recall these little primitive universities of homespun, where your mind was born, with a similar feeling of reverence, and homely satisfaction. Perhaps you remember, too, with a pleasure not less genuine, that you received the classic discipline of the university proper, under a dress of homespun, to be graduated, at the close, in the joint honors of broadcloth and the parchment.

In an Address delivered by the editor when Superintendent of Common Schools in Connecticut, before the State Teachers' Association held at Washington, (in which town the Parish of New Preston is mainly situated) in 1850, the following reference was made to the past school habits of the people.

The School Society in which we are assembled is a beautiful and striking illustration of what an agricultural people can do, under many disadvantages, to cultivate the minds and souls of the children and youth, and to send out a race of men to achieve for themselves wealth and distinction, and reflect a true glory on the rugged homesteads where their childhood and youth were nurtured. New Preston enjoys a wide, and will enjoy a still wider celebrity for the number of eminently useful, and in some departments of effort, eminently distinguished men, whose birthplace was on these rugged hillsides, and whose bodily energy, and whose freshness and force of mind were secured by the pure air, the rough exposure, the healthy sports, and laborious toil of their country life. Bred as boys were, and still are in these agricultural homes, they can endure longest the wear and tear of hard study; and in the calmness and seclusion of their outward life, they can acquire that habit of reflection which appropriates knowledge into the very substance of the mind. There is also a freshness of imagination,—nurtured by wandering over mountain and valley, and looking at all things whether fixed like the everlasting hills, or growing and waving like the forests which diversify their sides, or giving out music and life like the streams which leap down and between,—which, untired in its wing, takes long and delightful flights. There is ardor and eagerness after eminence, which gathers strength like a long pent fire, and breaks out with greater energy where it has room to show itself. Above all there is often, and may be always, a more perfect domestic education, as parents have their children more entirely within their control, and the home is more completely, for the time being, the whole world to the family. Wherever these favorable circumstances are combined with the advantages of good teachers, good books, and the personal influence of educated men, as clergymen and physicians, there will boyhood and youth receive its best training for a long life of useful and honorable effort. How

much the labors of such men as Jeremiah Day, Ebenezer Porter, in the pulpit, and in their pastoral and school visitations—how much that old social library which once brought so many of the great and the good of other towns and other counties to join your firesides—how much your teachers from time to time, combined with the habits of labor, of thrift, and strict domestic culture and training, has had to do in giving to our State and country such men as the Days, the Wheatons, the Bushnells, the Whittleseys—it will be impossible to determine. It is enough that this little parish, as described by Dr. Bushnell, "made up of the corners of three towns and the ragged ends and corners of twice as many mountains and stony-sided hills," has exhibited the highest results of industrial, intellectual and religious training. The power of this little parish (with less than a thousand inhabitants,) it is not too much to say, is felt in every part of our great nation. Recognized, of course, it is not; but still it is felt.

NOTE.

The following is an imperfect list of the truly eminent and useful men which the schools and domestic training of this little agricultural community in less than fifty years has given to the public service of the country.

- Nathaniel Smith, a lawyer, a member of Congress, and Judge of the Superior Court.
 Nathan Smith, Lawyer and Senator in Congress.
 Perry Smith, Lawyer and Senator in Congress.
 Daniel N. Brinsmade, Lawyer, member of General Assembly forty-three sessions, Justice of the quorum ten years.
 Ephraim Kirby, United States District Judge, Commissioner of the Revenue, and first reporter of Judicial decisions in Connecticut.
 Daniel Sheldon, Secretary of Legation to France.
 Nathaniel Pitcher, Lieut.-Governor of New York, acting Governor after Dewitt Clinton's death.
 Zina Fitcher, M. D., (brother of the above,) a distinguished scholar and physician of Detroit.
 Rufus Easton, Lawyer, Delegate in Congress from Missouri.
 Elisha Mitchell, Professor in North Carolina College, Chapel Hill.
 Charles Davies, LL. D., Professor of Mathematics, West Point.
 Thomas J. Davies, father of the above, Judge and High Sheriff in St. Lawrence County, New York.
 David C. Judson, Sheriff of St. Lawrence County.
 Charles A. Judson, Sheriff of Litchfield County.
 Thomas Hastings, Professor of Sacred Music, New York.
 Orlando Hastings, Lawyer, Rochester, N. Y.
 Seth Hastings, M. D., Clinton, New York.
 Thomas Goodsell, M. D., Professor in several Medical Colleges, Utica.
 Enos G. Mitchell, graduated at West Point, Capt. U. S. Army, died in Florida.
 Isaac Goodsell, M. D., distinguished Physician, Woodbridge.
 Amasa Parker, Judge in Delaware County, N. Y.
 George A. Calhoun, D. D., Clergyman, Coventry.
 Henry Calhoun, Clergyman, Ohio.
 Jeremiah Day, D. D., LL. D., President of Yale College.
 Nathaniel S. Wheaton, D. D., ex-President of Trinity College.
 Thomas Day, LL. D., Secretary of State, Reporter of Judicial decisions, &c.
 Elisha Whittlesey, LL. D., member of Congress, &c.
 Frederick Whittlesey, vice Chancellor, New York, member of Congress.
 Henry N. Day, LL. D., Professor in Western Reserve College, &c.

X.—ORGANIZATION AND INSTRUCTION OF THE NATIONAL SCHOOLS OF IRELAND.

THE following Circular and Time Tables, selected from a Report of P. J. Keenan, Head Inspector, instructed by the Commissioners of National Education in 1855, to hold, what would be called in this country, a "Teachers' Institute," composed of practical teachers, whose business it is to visit different parts of the country for the purpose of assisting in the organization of schools, and diffusing a knowledge of the best principles and methods of instruction, throw much light on the aims and processes of the National Schools of Ireland.

CIRCULAR LETTER explanatory of the nature of SCHOOL ORGANIZATION, and the DUTIES of the ORGANIZERS and INSPECTORS in relation to it.

1. The objects which the Commissioners of National Education have had in view, in establishing the staff of organizers, are two-fold, viz. :—

- A.—To bring National Schools into a state of efficiency.
 - B.—To diffuse amongst the teachers of the country a knowledge of Schoolmastership in all its practical bearings, and also of the leading principles of the Science of Education.
2. To carry out the first great object, (1 A), the organizers will devote themselves, during their stay in a school, to the following, as the main part of their duties.
3. To secure a regular and proper ventilation of the school-room.
 4. To improve the lighting of the school-room, if necessary.
 5. To make suitable arrangements as to the playground and out-offices.
 6. To make every available use of the walls; to provide tablet rails, &c.
 7. To arrange maps, charts, and tablets, and show how they can be most profitably used.
 8. To provide black-boards, easels, pointers, arithmetics, &c., and instruct the teachers as to their use.
 9. To see that a sufficient number of desks is provided; that they are properly arranged and fixed on the floor; that provision is made for holding the slates; and that the business legitimate to the desks is regularly carried on.
 10. To secure sufficient space for the drafts; to denote them by suitable marks on the floor; and to arrange the business proper to the drafts.
 11. To classify the pupils, and divide them into convenient divisions and drafts.
 12. To make out a time-table suitable to the circumstances of the school, and to test its judiciousness, by experiment, for a number of days before recommending its adoption to the Manager.
 13. To see that the pupils, as well as the teacher, understand the arrangements indicated in the time-table.
 14. To establish a sound system of monitorial instruction; to see that the members of the monitor class are judiciously selected; that they are sufficiently mature and intelligent for their duties; that their employment as monitors does not interfere with their business as pupils; that they be required to teach those subjects only which they are competent to teach; that they receive special instruction from the teachers, in lieu of the time spent by them in teaching; that the business arranged for their special instruction is regularly conducted; that they are instructed in the art of teaching; that they are taught to prepare notes of the lessons which they may be called upon to teach; that they know their duties prospectively; that they teach the same set of children from day to day for an assigned time; that their teaching is effective; that the pupils have sufficient respect for them, and confidence in their abilities; that such arrangements are made as to satisfy the parents of pupils and monitors with the monitorial system, and that the teacher is duly prepared to control and prepare the monitors for their duties.

15. Whilst monitorial instruction, judiciously and moderately employed, is encouraged, the organizers are to see that all the essentials of the education of a child are looked after and cared for by the teacher himself, and that the latter is to be almost constantly employed in the actual teaching of class after class, at the same time that he exercises an active superintendence over all the simultaneous operations of his school.

16. To establish a system of home lessons; to make arrangements for their regular announcement day after day; to see that they are properly heard; that the answering of the pupils is in some form noted; and that the general order of such lessons be kept in correspondence with the ordinary teaching pursued in the school.

17. To arrange for the regular recapitulation or repetition of the home and other lessons.

18. To make arrangements that the parents may be occasionally informed as to the attention of the children to the home lessons and general business of the school.

19. To exemplify before the teacher the different methods of teaching, and to cause him in turn to practise the same.

20. To see that he prepares "notes of lessons" in proper form, on the different subjects taught in the school, and that he teaches the various lessons in conformity with the notes so prepared.

21. To effect as much improvement as possible in the teaching of reading, writing, arithmetic, dictation, grammar, geography, drawing, &c., and particularly in the teaching of the *First Book*.

22. To see that the teacher gives clear evidence that he prepares himself beforehand for the work of each day, not only in the notes of the lessons which he is to teach, but also in the general business, including the simplest mechanical details of his school.

23. To drill the children, put them through the simple marching exercises, establish order and discipline, and train the teacher to continue the same course of drill and discipline so established.

24. To see that the business of the school is conducted with the least noise possible.

25. To establish a system of punishment for badly conducted children, and to introduce a system of emulation or reward, to promote good conduct.

26. To improve the manners of the children, and to see that there is a daily inspection as to cleanliness, &c.

27. To see that the children are provided with the necessary books for home study, and that a sufficient sale stock, and an ample supply of school materials and requisites are furnished.

28. To arrange as to the calling of the rolls with all possible despatch; to provide a report slate; to correct and show the teacher how to keep the school accounts, and to cause scroll rolls to be kept.

29. To adopt measures towards improving the attendance of the children, particularly with reference to punctuality in the morning.

30. Finally, the organizer is to lead the teacher into a strict observance of the rules of the Board, but especially the Practical Rules for Teachers.

31. The Commissioners of National Education have decided that no National school can be organized until the Manager express his desire to avail himself of the services of an organizer; and even after so expressing himself, and permitting the organizer to commence operations in his school, it is to be distinctly understood that he is not bound to carry out the plans or to effect the alterations suggested by the organizer.

32. The Inspectors should therefore select those schools only for organization, the Managers of which are likely to exhibit a kind and coöperative spirit to the organizers.

33. Before a school can be organized, the Manager must provide a sufficient sale stock for the use of the children attending it. As already announced to the Inspectors, the Commissioners, on the recommendation of the Head or District Inspector, or the organizer, will make a small grant of charts, black-boards, easels, pointers, &c., proportioned according to the wants and attendance of the school, not exceeding, however, except in special cases, the value of five pounds.

34. When an organizer enters a school, he is carefully to observe the methods of teaching pursued by teachers and monitors; the order, discipline, arrangements, and general organization of the school; and he is afterwards to report, on a form prepared for the purpose, the exact state in which he finds the school in all these respects. This report is called the *Preliminary Report*.

35. When an organizer has completed the organization of a school, he is to make a report of the order, discipline, system, &c., established by him; to detail the exact state in which he leaves the school; and to record the general results of the organization. This report is called the *Final Report*.

36. The organizer is then to forward the two reports just referred to, to the Inspector of the district in which the school is situated.

37. After a period of not less than three weeks, and not more than six weeks from the completion of the organization of the school, the Inspector of the district is to inspect the school, with a special view of ascertaining the effectiveness of the organization, and of examining and checking, in detail, all the points and statements contained in the organizer's final report.

38. The District Inspector is then to forward this report, along with the organizer's Preliminary and Final Reports, to the Head Inspector of the District, who will afterwards transmit them to this office.

39. During the time that a school is under organization the Inspector is not to make a formal inspection of it, nor sooner after the organization is completed than the time mentioned in paragraph 37; and it is the express wish of the Commissioners that the employment of an organizer in a district may interfere as little as possible with the usual and regular business of inspection.

40. It is, however, exceedingly desirable that the Inspector should make as many incidental visits as possible to a school under organization, to see that the work is proceeding with regularity and vigor; to confer with the Managers, and stimulate them to a hearty co-operation with the organizers; to assist in removing local difficulties or impediments, and to extend, as much as lies in his power, the advantages accruing to the National system from the operations of the organizers.

41. No organizer should, for the present, be sent to any place where there are not, at

least, four National Schools within a circuit of three miles from it, the Managers of which are desirous that their schools may receive the advantages of organization.

42. No less than four, or more than eight, schools are for the present to be organized by the same organizer in any particular locality.

43. As a general rule, the time spent in the organization of a school is not to exceed a fortnight; but the organizer is to return for a day or two, if necessary, before he leaves the locality in which the school is situated, to observe the results of the organization, and give such further instruction to teachers and monitors as the state of the school may at the time suggest as necessary and important.

44. The two weeks which may be spent by an organizer in a school are not to be consecutive; a week, in all cases, is to elapse between the first and second parts of the organization. For instance, where four schools, A, B, C, D, are to be organized, the following may be the order of organization:—

First week A	Next week C
Next week B	Next week D
Next week A	Next week C
Next week B	Next week D

45. The second great object which the Commissioners of National Education have had in view in establishing the staff of organizers, as already stated in paragraph 1 B, is "to diffuse a knowledge of schoolmastership in all its practical bearings, and also of the leading principles of the science of education amongst the teachers of the country."

46. To carry out this great object each organizer will deliver a course of lectures to the teachers who live in the neighborhood of the school in which he is engaged, upon method, order, discipline, school accounts, employment of monitors, construction of time-tables, arrangement of school furniture, use of charts, tablets, and apparatus, industrial education, and upon organization generally.

47. These lectures will take place on Saturdays, at whatever hour may be most convenient to the organizers and the teachers.

48. The District Inspector is to invite all teachers living within a reasonable walking distance—four or five miles—to those lectures; and whilst attendance is, under no circumstances, to be considered as compulsory, it is to be understood that the Commissioners will regard with satisfaction the conduct of those teachers who attend the instructions.

49. None but schoolmasters and monitors in their fourth year, are to attend the lectures of male organizers, and none are to attend the instructions of the female organizers but schoolmistresses and montresses in their fourth year.

50. Teachers, whether trained or not, are eligible for admission into the organizers' classes; for it is hoped that both the trained and the untrained will derive such advantage from the instructions as to qualify them the better for a skillful and efficient discharge of their duties.

51. The organizers will keep a roll of the attendance of the teachers, and submit it at the end of the course of instruction to the District Inspector.

52. The organizers will require the teachers who may attend to take such notes during each lecture as will enable them to write out an abstract of it before the day for the following lecture; those abstracts and whatever other written exercises the organizers may require the teachers to prepare for them are to be examined and noted by the organizer, and submitted from time to time to the District or Head Inspector, to be afterwards, however, in the corrected state, returned to the teacher.

53. A statement will be made at the end of each course of lectures by the organizers, for the information of the Inspectors and Commissioners, of the attention paid by each of the teachers to their instructions, and of the proficiency which each of them shall have made.

54. As the duties of an organizer, when organizing a school, will be such as to prevent him from doing much more, in reference to methods of teaching, than exemplifying and carrying into practical effect the instructions contained in his lectures, no school can be organized, the teacher of which does not attend, or shall not have attended, a course of lectures either from him or some other organizer.

55. The Commissioners desire that the Inspectors should devote as much attention as possible to the arrangement and superintendence of those weekly meetings; and they also desire that the Inspectors should sustain and encourage the organizers on those occasions, uphold their authority, give weight to their position, and contribute by every means in their power to their success.

56. Before an organizer commences operations in a locality, the Inspector should have all necessary arrangements with Managers and teachers completed, as to the schools to be organized and the teachers who are to form the Saturday class for practical instruction.

57. Whenever a District Inspector feels that the services of an organizer are required for any particular group of his schools, all the conditions already announced being either fully complied with, or in a fair way of being so, he is to communicate with this office, giving information on the following points:—

- (a) As to the centre which he proposes for the residence of the organizer, selecting, of course, no place in which a suitable lodging cannot be procured for him and his family.
- (b) As to the schools which he recommends for organization and the distance of each from the proposed residence of the organizer.
- (c) As to the number of teachers who would likely attend the lectures of the organizer upon Saturdays.

58. Each District Inspector is requested to inform this office, within a week after the receipt of this circular letter, upon the points enumerated in the previous paragraph.

59. The office, on receipt of those communications, will advise them to the Head

Inspector, whose duty it will be to select the schools proposed to be organized, to instruct the organizers as to the schools assigned them, and the time of the commencement of the organization, and immediately to advise the office as to the steps thus taken.

60. In order to place the object and details of the system of organization, and the machinery by which it is worked, as fully and clearly as possible before the Inspectors, the Commissioners append printed copies of the reports referred to in paragraphs 34 and 35. These reports, printed verbatim from the copies furnished by the organizer, are selected principally because the school to which they refer, from being one of the worst town schools in connection with the Board, has become, since its organization, distinguished for the neatness and completeness of its arrangements, and the general excellence of the order, discipline, and methods of teaching pursued in it. The Inspectors should peruse these reports carefully, inasmuch as they exhibit, with considerable precision, the chief points and details in the organization of a school.

61. The District Inspectors are requested to circulate, as extensively as possible, amongst Managers, teachers, and the public generally, information as to the object, scope, and leading features of organization; to let Managers understand that the presence of an organizer in their schools neither affects their privileges nor interferes with their functions; to inform teachers that organization is intended to diminish, in no way, their authority in their schools, or to degrade them in the estimation of their pupils or the parents; to acquaint all classes interested in the education of the people, that an organizer has nothing whatever to say or do in relation to the arrangements for religious instruction; that, on the contrary, it is the aim of the Commissioners, in the measures now taken by them for the improvement of their schools, to uphold the rights of Managers, to strengthen the power of the teachers, by rendering them more skillful servants of the public, and to realize what the Board have long desired to attain, a scheme of organization which, by combining all that educationists approve in the matter of instruction and commend in school keeping, will give a distinctive stamp and uniform character to the schools conducted on the National system.

The following extracts from Mr. Keenan's Report (1856) illustrates some of the above points.

School Organization.

In organizing an ordinary National School, the teacher should divide the school into two divisions; and he would arrange that the divisions should move alternately from floor to desks, desks to floor, and so on. He would appoint specific business for each division for every moment of the day, whether in the desks or on the floor, and the spirit of the whole organization would consist in the unflagging nature of the work from morning to evening. On the floor there would be the active *viva voce* lessons in reading, grammar, geography, arithmetic, spelling, geometry, algebra, mensuration, &c.; in the desks there would be the quiet work, requiring only superintendence and occasional examination or instruction, as writing on slates and paper, dictation, composition, drawing, slate arithmetic, lesson exercises, book-keeping, and industrial work. "Lesson Exercises" is a name which I have given to any exercise on paper or slate, which refers to some lesson previously learned. For instance, if it refer to grammar, the exercise may be to classify columnarly the parts of speech of the words of a sentence, to write out the derivations of a number of words dictated to them, &c.; if it refer to the Lesson Books, the exercise may be to write out the substance of the lesson read a little previously upon the floor, or to summarize the lessons of a section of one of the books, &c.; if it refer to geography, the exercise may be to write down the manufactures, population, imports, exports, &c., of some country, or to draw an outline map of it; and no matter, in short, what the subject may be, it will afford material for this very useful and interesting exercise, which has the advantage of being always an appeal to the judgment as well as to the memory.

The organizer takes care that there shall be no "preparing lessons," home being the place for that, the suitable place where even if there were no improvement on the hour and forty minutes' plan, it would be still desirable to enforce habits of reading and study and of preparation for the business of the school. The arrangement into two divisions — the rotation being from desk to floor and floor to desk throughout the day — would be called a bipartite organization; but if the school were large and possessed the convenience of a gallery or class-room, the arrangement might consist of three divisions, the rotation being from desk to floor, floor to gallery, gallery to desk, it would be called a tripartite organization. The result of these arrangements is, that there are either two or three distinct courses of business going on at the same time, each course of business being regularly arranged and properly defined, and having strict reference to the gradual development of the education of the children in the school. There can be no haphazard work, no fortuitous employment; every one must be constantly engaged, the master teaching and the pupils learning. In Holland, one of the state laws declares — "The instruction shall be communicated simultaneously to all the pupils in the same class, and the master shall take care that during that time the pupils of the two other classes are usefully employed."

Tripartite System.

If the school be large, the teaching power sufficient, and a class-room or gallery at his disposal, the organizer decides upon the tripartite system, and arranges the school into three divisions, the junior, the middle, and the senior. The junior division may be composed of the first class, the middle division of the second and sequel classes, and the senior division of the third and fourth classes. Sometimes it may be necessary, although to be avoided if possible, to break up a class and place the lower portion of it in one division, and the higher portion in another. For instance, the lower section of Second Book might be placed in the junior division; the middle division might include the higher section of second and the sequel class, and the senior division, as before, might contain the third and fourth classes. The head master might possibly have *special* charge of the senior division, the assistant master of the middle division, and a paid monitor might have the care of the junior division. The routine working of the tripartite system is very simple. The business of the day, say, commences with the senior division upon the floor. The head master, having a monitor in each draft of it, goes from draft to draft, revising what has been done by the monitors, and giving the substance of the lesson for the time being to each class as he passes along. The middle division is at this time, say, in the gallery, receiving a simultaneous lesson from the assistant master on some subject appropriate to the gallery; and the junior division is in the desks under the monitor, engaged in some befitting desk occupation. The head master, although having special charge of the senior division, is yet master of the whole school, and he must so contrive his duties, that whilst he teaches his own division, his influence and superintending function shall be felt and exercised in each of the other divisions of the school. Accordingly, whilst the divisions are disposed of as I have represented them, for the first lesson of the day, he must, in addition to the immediate instruction which he gives his own division, turn to the junior division in the desks, see how the monitor is managing it, take a momentary part in the teaching, and make a cursory inspection of what the children are employed at. This must be done without causing gaps or incoherency in the teaching of his own division, every draft of which must receive its share of his services, and every monitor in which must account to him for all that he is doing and for the proficiency of his pupils. He must also pay an occasional visit to the gallery, to see that his assistant is instructing the middle division with intelligence and effect, and that he exhibits evidence of having carefully prepared himself for the lesson. The order of the whole school is to be watched; a monitor inclined to rest upon his oars is to be aroused; a child disposed to idle is to be admonished. Every one must be employed; every monitor must be in earnest; every black-board must show that work is being done. The quality of the instruction must be looked after; there must be no lounging or yawning or talking or whiling time away. He must know the extent of the instructions which have been given in the desks and in the gallery. The lesson has now lasted for thirty minutes; the bell announces the time up for a change, and in a moment the three divisions are simultaneously in motion. In less than half a minute they have all changed places. The senior division has gone from the floor to the desks; the junior from the desks to the gallery; the middle from the gallery to the drafts on the floor. There is no noise or confusion in the movement, no roaring out the orders; the stroke of the bell by the monitor of order, or the head master, is sufficient to announce the change. Immediately that the divisions reach their places, business is resumed. The head master starts his division at once to work in the desks; the assistant is going through a course with his drafts on the floor, similar to that pursued by the head master during the previous lesson; and the monitor is busy with his division in the gallery. The head master has more leisure now to pay attention to the junior and middle divisions, for his own division is engaged at some silent occupation in the desks, which only requires superintendence and occasional examination. He may possibly exchange with the monitor, and give the simultaneous lesson to the junior division in the gallery, or he may go from draft to draft through the middle division, and confer with his assistant as to the state of each draft, the industry or the ability of each monitor, and the whole scheme of the instruction of the division. It requires only an occasional minute to pass through the desks and overlook and correct the exercises of his own, the senior division, or he may spend four or five minutes with it consecutively, in explaining the principle of what it is engaged at, whether writing, or drawing, or book-keeping, or composition, or whatever else the lesson may happen to be. The same activity and the same watchfulness prevail during the second lesson, as during the first; and when the allotted time, thirty minutes, more or less, is up, the bell again rings, and again the simultaneous movement is made. As before, there is no noise; no confusion; no trampling of feet; no blundering; in silence and order each division reaches its new place. The junior division has moved from the gallery to the floor; the middle division now

occupies the desks; and the senior division has marched to the gallery. Business has again commenced. The head master is giving a simultaneous lesson in mechanics, geometry, geography, or some other gallery subject; the monitor is engaged with his junior division on the floor; the assistant has the copies or slates, or pens or pencils, distributed in the desks, and his division is soon in full work. Every body is engaged. The change of place has relieved the minds of the pupils, the change of subject and position has protected the teachers from tedium or fatigue. Already much solid business has been done, much permanent good accomplished. The assistant has now time to turn for a moment from the desks to the junior division, and to cooperate with the monitor in instructing his drafts. He controls and directs the monitor whilst he aids him, keeps an eye to the general order of the room, and reports to the head master how matters proceed during his absence in the gallery. If the lesson which is being given in the gallery, admits of a break or rest in the middle, or in any part of it, the head master may take a brief glance at the principal school, have a word with the assistant or the monitor, and return to finish the lesson with his division, or, in order that he may occasionally have an opportunity of examining the pupils of the junior division in their drafts upon the floor, and those of the middle division whilst they are engaged at some desk occupation, he may change places with the assistant master, having previously given him notice of his intention, allowing the latter to give the gallery lesson to the senior division, whilst he himself takes charge of the divisions in the principal room. And thus in a quiet orderly rotation of this kind, in a life-like series of changes, with every body busy, every body happy; the head master guiding and inspiring his assistant and his monitors; his influence every where; the instruction progressive; results, sterling and impressionable, produced at every lesson, is a school conducted on the tripartite system of organization.

Bipartite System.

By the Bipartite System the school is arranged in two divisions, the junior and the senior; and even without the assistance of a paid monitor, a teacher following the system laid down by the organizers could conduct a school with the same energy and effect, as that which I described in the case of the school organized on the tripartite system. The master of a bipartite school has always one division in the desks, another on the floor; the rotation is from desks to floor, and floor to desks. It does not require the same exertion to teach and superintend a bipartite, as a tripartite school. The master has a limited number of children; the operations of the school are concentrated into one room; he never quits the gaze of the main body of his pupils; the changes are easily made; and he has but to labor assiduously to insure success. The pupils of a tripartite school have the advantage of gallery instruction, which is not embraced in the bipartite system; but in other respects, the latter is just as effective as the former. By omitting what relates to the gallery, from the illustration which I gave of the tripartite system, and by substituting an intelligent paid or unpaid monitor for the assistant, the description would answer just as accurately for the simple operations of a bipartite school. I need not, therefore, describe the order of procedure in a school of the latter kind. The golden rule of either system is, that the teacher as well as the pupil is constantly employed; that he has a special duty for every moment of the day; and that he discharges this duty in such a way that he can superintend the whole of the operations of his school.

Modified Monitorial Teaching.

The Commissioners of National Education have always encouraged monitorial teaching; they have seen that a child who is employed, at stated times, in the teaching of a class of his fellow-pupils, is rendering most valuable assistance to the master, is improving himself in knowledge, and is obtaining a taste, and undergoing the best possible training for becoming a teacher. They approached the consideration of the question with the greatest care. They never contemplated conducting a large school solely by monitorial assistance; nor did they ever permit their monitors to forget that they are pupils. The first regular monitors in the service of the Board, were those in the Model Schools, Dublin, so far back as March, 1833. Some were paid, and others acted gratuitously. One of the greatest prizes and highest distinctions in the school was to attain to a monitorship. At one time during school hours the monitors taught some of the classes, and at another time they were themselves instructed; and, before school hours, there was a special course of instruction always given them.

The Commissioners, in their Report for 1837, refer to a new system of remunerating this class of young persons, in the Model Schools they were intending to establish throughout the country, which shows the permanency of the monitorial system at that early period in the history of the Board. They say, "that

the money, so paid (in school fees), shall constitute a school fund, and that it shall be divided into such proportions, as we may determine, between the head master, his assistant, and the most advanced of the monitors whom he may employ." The system was always worked with moderation; it was free from the wild pretensions of the plans of Bell and Lancaster; and the pupilar and the monitorial functions were happily coalesced. It was the first rational trial, in my mind, which was given to monitorial teaching in these countries. In their Report for 1846, the Commissioners refer to the fruits of the system; they develop its organization, and they announce their determination to extend it to the Ordinary National Schools throughout the country. Each monitor was to serve for a period of four years; at the end of each year there was a sifting examination as to his proficiency; his teacher was required to employ him moderately as a monitor, and freely as a pupil; and his income increased each year up to the last of his service.

The system received a further development by the institution of a small staff of pupil-teachers in each of the Model Schools, who, in most cases, were the elite of those monitors who had completed their fourth year of service. It should be remembered, that the functions of the pupil-teacher and the monitor are very different; the former is more so a teacher than a pupil; the latter more of a pupil than a teacher.

In 1855, the monitorial system received a still further extension of its usefulness, by the appointment of a number of junior paid monitors, commencing at eleven years of age, and serving for three years; to receive £2 for the first year, £3 the second, and £4 the third. If the conduct and attainments of a junior paid monitor be satisfactory at the end of his period of service, he is then drafted into the ranks of the senior paid monitors, to serve for four years more, and receiving respectively each year, £5, £6, £8, and £10. The paid monitor is now eighteen years of age, and should he persevere in his intention to become a teacher, and exhibit the necessary qualification, he may then be appointed to a pupil teachership in a District Model School, in which he remains for twelve months or two years. In this last stage, his professional education is carried to such a degree, as to qualify him in the most superior way for the offices of teaching; and at the expiration of his stay in the Model School, he is very likely at once nominated to the charge of an Ordinary National School. After serving a year or two as teacher of a school, and becoming acquainted with the difficulties and the responsibilities of the position, he is then brought up to Dublin to receive a final course of training in the Central Institution, Marlborough Street.

Elaborate and well designed as each step in this gradation of monitorial training really is, and superior as have been the results flowing from it, there yet remained a gap in it, the want of a regular scheme of unpaid monitors, which has been filled up by the system of organization, and which has tended to make our monitorial system still more comprehensive and perfect. When a school is being organized, the organizer selects a class which is called "the monitor's class," from amongst the most deserving and intelligent children of the school; he admits as many as possible into the class, in order that the duties may be distributed amongst them and be light upon each; he impresses upon them the importance of their new position and the extent of the distinction which is conferred upon them; and he then arranges that in lieu of the hour a day during which, on the average, they will be called upon to teach, they shall receive an hour's extra special instruction before or after the regular school business. Wherever practicable, it is better that the instruction should be given before school hours, as the minds of the children are fresh and the teacher himself is vigorous. The subjects which are specially taught during the time for extra instruction, are those which bear most upon the duties of the monitor, the preparation of notes of the lessons, and the art of teaching; and care is taken that this instruction supplementalizes and completes the course of business of the day. In order to encourage the teachers to take an interest in the instruction of their monitors, and as a recompense for the additional duty imposed upon them, the Commissioners grant an annual gratuity of £1 for each paid monitor of the first year, £1 10s. for each paid monitor of the second year, £3 for each paid monitor of the third or fourth year, and £4, as I have already stated, for the careful instruction of an unpaid monitor's class in any school which is organized. Every school that is organized will thus have its staff of unpaid monitors. Some of them, in the course of time, will be placed on the list of junior monitors, be again drafted into the class of senior monitors, and be finally appointed as pupil-teachers in a District Model School. During each stage they are pupils one hour, monitors the next; blending the didactic with the studious; rising in powers of thought and expression with their daily experience in teaching, and feeling the counterpoising and disciplinary influences of submission and authority.

SPECIMENS OF TIME TABLES.

No. 1.—BOYS' SCHOOL.—TRIPARTITE ORGANIZATION.

Time.	Junior Division.	Middle Division.	Senior Division.
10 $\frac{1}{2}$ to 11	Home Lessons & Reading alternately. Floor.	Drawing. Desks.	Geography & Grammar alternately. Gallery.
11 to 11 $\frac{1}{2}$	Writing. Desks.	Geography & Grammar alternately. Gallery.	Home Lessons. Floor.
11 $\frac{1}{2}$ to 12	Geography & Grammar alternately. Gallery.	Home Lessons. Floor.	Writing. Desks.
12 to 12 $\frac{1}{2}$	Arithmetic. Floor.	Writing. Desks.	Reading. Gallery.
12 $\frac{1}{2}$ to 1	Theory of Arithmetic, Object Lesson, & Singing, alternately. Gallery.	Recreation in Playgr'd. Arithmetic. Floor.	Dictation. Desks.
1 to 1 $\frac{1}{2}$			
1 $\frac{1}{2}$ to 2	Reading and explanation. Floor.	Dictation. Desks.	Theory of Arithmetic, Object Lesson, & Singing, alternately. Gallery.
2 to 2 $\frac{1}{2}$	Dictation and Drawing alternately. Desks.	Theory of Arithmetic, Object Lesson, & Singing alternately. Gallery.	Arithmetic, Algebra, &c. Floor.
2 $\frac{1}{2}$ to 3	Tables and Mental Arithmetic. Gallery.	Reading. Floor.	Drawing. Desks.
3 to 3 $\frac{1}{2}$	Dism. issued.		Algebra (M.), Mens. (T.), N. Phil. (W.), Geometry (Thurs.), Book-keeping (F.).
3 $\frac{1}{2}$ to 4	Dism. issued.		Geometry (M.), Book-keeping (T.), Algebra (W.), Mens. (Thurs.), Nat. Philosophy (F.).

Religious Instruction from 10 to 10 $\frac{1}{2}$ o'clock.

No. 2.—GIRLS' SCHOOL.—TRIPARTITE ORGANIZATION.

Time. H. M. H. M.	Junior Division.		Middle Division.		Senior Division.	
	1st Class.	2d Class.	Sequel.	3d Class.	4th Class.	5th Class.
10 30 to 10 55	Geography and Grammar. Gallery.		Dictation and Drawing. Desks.		Home Lessons. Floor.	
10 55 to 11 20	Dictation and Drawing. Desks.		Home Lessons. Floor.		Geography and Grammar. Gallery.	
11 20 to 11 45	Home Lessons. Floor.		Geography and Grammar. Gallery.		Dictation and Drawing. Desks.	
11 45 to 12 15	Reading. Gallery.		Writing. Desks.		Arithmetic. Floor.	
12 15 to 12 45	General Lesson and Writing. Desks.		son and Recreation in Reading. Floor.		Playground.	
12 45 to 1 15					Mon., Arithmetic; Tu., Object Lesson; Wed., Globes; Thurs., Art of Reading. Gallery.	
1 15 to 1 45	Reading. Floor.		Arithmetic. Gallery.		Writing. Desks.	
1 45 to 2 15	Arithmetic. Gallery.		Slate Arithmetic. Desks.		Reading. Gallery.	
2 15 to 2 30	Work and		Natural History, or Do		mestic Economy. . .	
2 30 to 3 0		Work and Singing.		

Religious Instruction from 10 to 10 $\frac{1}{2}$ o'clock.

No. 3.—BOYS' SCHOOL.—BIPARTITE ORGANIZATION.

Time.		Junior Division.		Senior Division.		
		1st Class	2d Class.	Sequel.	3d Class.	4th Class.
H. M.	H. M.					
10 0	to 10 5	Inspection as Dictation.		to personal cleanliness.		
10 5	to 10 45	Home Lessons and Reading.		Home Lessons.		
10 45	to 11 15	Writing.		Dictation.		
10 15	to 11 45	Rolls called and attendance entered in Report Book.		Arithmetic, Algebra, Geometry, &c.		
11 45	to 11 50	General Lesson read.		Writing.		
11 50	to 11 55	Reading and Spelling.		Geography and Grammar alternately.		
11 55	to 12 30	Lesson Exercise.		Drawing and Composition alternately.		
12 30	to 12 40	Geography.		Reading and Explanation.		
12 40	to 1 10	Drawing.		Arithmetic in Desks.		
1 10	to 1 30	Arithmetic.				
1 30	to 2 0					
2 0	to 2 30					

Religious Instruction from 2½ to 3 o'clock.

No. 4.—MIXED SCHOOL—ATTENDED BY BOYS AND GIRLS.—BIPARTITE ORGANIZATION.

Time.		Junior Division consists of First Class and Third Draft of Second.	Senior Division consists of First and Second Draft of Second Class, Sequel, Third, and Fourth Classes.
H. M.	H. M.		
10 30	to 11 0	Home Lessons.	Writing.
11 0	to 11 30	Writing.	Home Lessons.
11 30	to 11 55	Arithmetic.	Dictation.
11 55	to 12 0	Rolls called, Report entered, and General Lesson read.	
12 0	to 12 10	Boys Arithmetic.	Girls play.
12 10	to 12 20	Boys play.	Girls sew.
12 20	to 12 50	Lesson Exercise. Girls sew.	Arithmetic.
12 50	to 1 20	Reading.	Lesson Exercise. Girls sew.
1 20	to 1 40	Drawing. Girls sew.	Grammar and Geography alternately.
1 40	to 2 0	Grammar and Geography alternately.	Drawing. Girls sew.
2 0	to 2 30	Desk Arithmetic. Girls sew 10 minutes.	Reading.

Religious Instruction from 10 to 10½ o'clock, and from 2½ to 3 o'clock.

SYLLABUS OF LECTURES ON METHODS OF INSTRUCTION.

I.—METHOD IN GENERAL.

a. *Definition.*—Literal meaning: true method is a way of transit from one to the other of related things—a unity with progression: a mental act: relations of things are its materials: it is never arbitrary: the habit of method results from education: arrangement or order is not method: its great principles are union and progression: it leads to thoughtfulness, understanding, learning, and application.

b. *Importance.*—In domestic affairs: agriculture: construction of a watch: discourse, private or public: poetry—a play: meditation—science: education—starting point, object to be attained, and course: in this course the teacher should assist and direct, develop facts, prevent idleness, and advance gradually.

c. *Necessity for.*—All is chaos without it: no convenient arrangement: no natural disposition of things: no solid progress can be made: the rambling, incoherent character of ordinary teaching.

d. *Divisions.*—The two great methods are Synthesis or Induction, and Analysis or Deduction: the subordinate methods are the Socratic, Didactic, Elliptical, &c.

II.—THE TWO GREAT METHODS.

By these every subject may be treated.

a. *Synthesis.*—Literal meaning of the term: is a putting together the parts or elements of any subject, step by step: also called Induction: proceeds from the simple to the complex—the particular to the general: it is the natural method: best adapted for elementary instruction: all educationalists are agreed upon this point: its great reviver and supporter in modern times was Pestalozzi (Zurich, 1745): he first taught *sounds*, then *words*, then *language*.

ILLUSTRATIONS.—READING—letters, syllables, words, sentences, paragraphs, &c.; the difficulty of teaching reading in our language arises from the different sounds of the same letter, particularly of each vowel: this is very considerably obviated by the synthetic arrangement of our Lesson Books: examine the First Book; its structure is purely synthetic: letters taken by twos to form such words as *an, at, &c.*: in the next section we have distinct lessons on *a, e, i, o, u*: then a mixture of all these in the next five lessons: the next five lessons are on *ā* and *ā*, *ē* and *ē*, *ī* and *ī*, *ō* and *ō*, *ū* and *ū*, respectively: in the concluding lessons of the section we have a mixture of these several sounds: the first five lessons of the third section give the short sounds of the vowels followed by two consonants, as *act, elm, &c.*: then a mixture of these: next *a* as in *ball*: *o* in *love*: a combination or mixture of *long* and *short* sounds and *double consonants*, as in *chese, shell, &c.*: *diphthongs*: *digraphs*: *silent consonants*: peculiar sounds: combinations of three consonants: the beauty and method of this arrangement.

WRITING affords another example of synthesis: straight lines: curves: crotchet letters: capitals: Mulhauser's system; not his invention; he reduced the number of elements and arranged them synthetically: his merit lies in this.

DRAWING, another illustration of synthesis: straight lines | — √: curves \ / \ / \ / \ /: combinations of these with straight lines: the circle: the ellipse: combinations, &c.

GEOMETRY—definitions, postulates, axioms, and propositions.

CHEMISTRY—the formation of water by detonating by means of the electric spark, the proper mixture of oxygen and hydrogen.

MUSIC affords another illustration of synthesis: Hullah's system of teaching music is an admirable example of pure synthesis.

b. Analysis.—Literal meaning of the term: the separation of a compound into its component parts: also called Deduction: proceeds from the complex to the simple—the general to the particular: the opposite of synthesis: Jacotot's great supporter in modern times.

ILLUSTRATIONS:—LANGUAGE—sentences, clauses, words, and letters: **CHEMISTRY**—the decomposition of water by means of the galvanic battery: **GEOMETRY**—the deducibles: bread.

c. Application.—Analysis has been compared to the efforts of a traveller proceeding from the mouth of a river to its source, and synthesis to the efforts of the same traveller in retracing his steps to the mouth: both methods used in the discovery of truth: hence, they may be mutually employed: exclusive use of either unsuccessful: the analytic more used in the discovery of truth, the synthetic in conveying instruction: he who would teach synthetically must first analyze: the method to be used depends on the subject, and the pupils, and the teacher: every teacher should be an expert analyst: analysis cannot be used in teaching signs to children: they get their knowledge synthetically: they do not analyze: hence, synthesis must prevail in every subject: consistent facts only should be stated: avoid analysis till the mind is considerably developed: it is not to be used in teaching the junior classes: "Easy Lessons on Reasoning"—the first eight chapters analytical, and the remaining ones synthetical.

III.—SUBORDINATE METHODS.

a. Socratic consists of a series of questions logically or methodically arranged: also called Catechetical or Interrogative: either analytic or synthetic: teaching may be catechetical without being Socratic: *this form* prevails in ordinary schools: the remedy: directions for questioning:—

1. The question, both in matter and language, should be within the comprehension of the pupils.

2. It should be precise, so as to admit of a definite answer.

3. It should be such as not to admit of a simple "yes" or "no" for the answer.

4. It should not require a very long answer.

5. The questions should be methodical—a progressive order or chain of questions: simple to complex, or *vice versa*.

6. The questions should be interspersed with explanatory remarks from the teacher.

The uses of this method are two:—First, for examination: second, for conveying instruction: "Instruct the pupils by questioning knowledge into them, and examine by questioning it out of them:" the catechetical consists of three stages: preliminary questions, questions of instruction, and questions of examination: a good plan to let pupils question one another.

Cautions:—simultaneous answers: defective answers: wrong answers: correct them indirectly: random answers: good answers—approbation: answers in a pupil's own language: to arouse the listless pupil: thinking time: suggestive questions: book or author: "Is he right?"

b. Elliptic Method.—What is it: used during the progress of the lesson, that is, in teaching, and in examination: particularly applicable in examining upon an anecdote: its advantages—does not interrupt the continuity of the lesson, is more concise than the catechetical, and relieves it: directions for forming ellipses:—

1. A good ellipsis is equivalent to a good question.

2. The elliptic method should be associated with the catechetical.

3. The ellipsis should be adapted to the capabilities of the pupils.

4. It should be adapted to their attainments.

5. It should not admit of an ambiguous answer.

6. It should not end with "what," "how," &c.

c. Dogmatic.—What is it: neither analytic nor synthetic: becomes analytic when accompanied by explanation.

d. Didactic.

e. Explanatory.

f. Picturing out, &c.

XI. SUBJECTS AND METHODS OF EARLY EDUCATION.*

BY THOMAS URRY YOUNG.

I. NECESSITY AND NATURE OF THE INFANT OR PRIMARY SCHOOL.

THE idea of collecting very young children for elementary instruction is not new; schools for infants have long existed under the name of *Dame Schools*. Indeed the embarrassment arising from the union of children widely differing in age generally led either to the separation of the younger portion, or to their entire neglect. Very little observation and reflection are required to convince us of the marked disparity in the state of mind in children of various ages, which, when we address them familiarly, we involuntarily admit, by bringing our language and ideas to their level; and they themselves generally divide into groups, according to their age for conversation or play. No judicious teacher overlooks this fact, or attempts to unite in one class pupils of five years of age with others of ten and twelve. It is not, therefore, in the mere collecting of young children together, but in the kind of instruction given, and in the mode of communicating it, that the infant school system differs essentially from any previous form of elementary teaching. Under the old system, little was attempted until the child had learned to read; and, during this long and painful interval, the monotony of the school-room was seldom varied by any thing to interest or amuse the little pupil. No physical exercises relieved the wearied body, but all was starched formality, and what was called good order. Immured in a close dull room—all the joyous freedom of infancy repressed—the eyes vacantly poring over the unexplained mysteries of learning's first page, the only motives to exertion being the dread of the fool's cap, or of the

"Tway birchen sprays, with anxious fear entwined;
With dark distrust and sad repentance filled;
And steadfast hate, and sharp affliction join'd,
And fury uncontroll'd, and chastisement unkind."

With such a system, was it wonderful that the little sufferer longed to escape from school as from a prison house—that small progress

* Extracts from "*Young's Infant School Teachers' Manual*."

was made—and, worst of all, that the temper and disposition were too often irremediably injured? But, with the advancing intelligence of the present century, it began to be perceived and felt that something more was required for the happiness and good of infancy than this, at best, negative system; that, in fact, much could be done in the formation of character and good habits, as well as in the development of the intellectual and physical powers, even with children in the earliest stages of life: hence, infant schools, arising in an age of high intelligence, have had impressed upon them, at their commencement, enlarged and philosophical principles. Throwing aside, as unfit, all previously existing systems, the infant school legislates for its pupils in accordance with their age and state, basing its plans on the simplicity of nature; taking advantage of those restless instincts which were the terror of former teachers, it makes them subservient to the most perfect training, subduing to cheerful orderly activity that incessant restlessness, which, when suppressed, constantly breaks out into irregularities. That troublesome curiosity which so often annoys us in the young, is made to produce the rapid and apparently spontaneous development of the intellectual faculties; while the ever springing love of infancy opens the heart to receive the seeds of the purest virtue.

The following extract from an eminent Continental writer gives a fair statement of the position and use of infant schools:—

The vocation of such establishments is not to antedate the true effect of our schools, but to dispose and prepare children to enter them. Well directed, their utility is incalculable. The power of education is inversely as the age of the young; and Montaigne perhaps rightly said, that he learned more from his nurse than from all other teachers besides. Now, the teacher of an infant school carries the work of the nurse on to the age at which development really begins, and where habits are effectually formed. How many parents are there, who, for want of intelligence or leisure, of constancy and patience, are unfitted to watch over this first blossoming of our luxuriant human nature; and how desirable is it that the noble task should be intrusted to those who will regard it not as a trade, but as a profession and high art! Such institutions, too, necessarily facilitate, to a great extent, the operations of the primary schools. Instead of losing their best time, and consuming their best efforts, in bringing children within some order and discipline, in accustoming them to the school, and inducing them to fix their attention, the teacher would then only have to carry on an education already begun in every direction. In existing circumstances, and in places where there is no infant school, the teacher has reason to congratulate himself when the children committed to his care have received no education whatever, but remain very much as when they issued from the hands of nature; for then he has not to cause them to unlearn vicious habits instilled by previous maltreatment; but if good infant schools were universal, he would require only to resume the work they had begun, and to continue what already is considerably advanced. Learning to read, write, and cypher, would then not occupy all the leisure of the children; enough would remain for receiving true instruction, and for the work of education, properly so called.

I do not hesitate to state my opinion, that every primary school open to children from the age of six to fourteen, ought, in its younger classes, to be conducted and disciplined very nearly as an excellent infant school; and that in the

construction of new school-houses, attention should be paid to this special requirement.

To work, then, ye generous minds, who seek but an opportunity to accomplish services for humanity; none can be presented to you more enticing or more easy to be seized! To work, you also, who desire a greater security for your actions, who try your emotions by calculation, and consent to be charitable only when you have proved that thus also you shall be useful and just! The good now in question is in every way manifest, for the education of the people will not be truly provided for until infant schools are established every where; and the success of primary instruction itself can not fully be obtained unless through their establishment.

Arguments in favor of infant (or primary) schools are scarcely needed. Their extensive popularity and usefulness in Europe and America are the best proofs of their utility. The necessity of providing for the care of young children while their parents are engaged in their daily occupations—the importance of removing them from the moral contamination, as well as from the physical dangers, of the streets—the duty of inculcating, at the age most susceptible, pure moral and religious principles—the immense saving effected in their future education, by employing their otherwise valueless time in the acquisition of elementary knowledge—all plead for the establishment of these institutions wherever practicable.

As the passions and affections of our nature furnish the first impulses to action, it is important that we address ourselves to the task of moulding and directing them at the age at which they are most yielding and susceptible.* And as examples of good and evil are presented to the mind as soon as it is capable of intelligent observation, it is not sufficient that we ourselves set a good example, but it also becomes necessary to explain to the opening mind of the pupil the nature and tendency of the actions he may witness, or in which he participates.

The acquisition of knowledge suited to the age and state, by occupying the mind, prevents it from receiving evil, and prepares it for the reception of good. Children can not be effectively trained without the society of those of their own age. Constant and skillful treatment is required to form the character and develop the powers. Parents rarely possess the requisite knowledge, or can spare the time required for this important work, and consequently infant schools are necessary for the future welfare of the rising generation.

It must never be forgotten, that the tender age of the pupils renders constraint and severity alike unnecessary and prejudicial. The habit of study and fixed attention is of slow growth, and consequently all long continued lessons are useless and injurious. No lesson is

* A child is a being endowed with all the faculties of human nature, but none of them developed; a bud not yet opened. When the bud uncloses, every one of the leaves unfolds, not one remains behind. Such must be the process of education. —*Pestalozzi*.

good unless it is pleasing to the children. The lessons should be such as arise out of the spontaneous action of the perceptive faculties, directed by the teacher to a certain end.

The paramount importance of physical development must never be lost sight of, and a pleasant alternation of exercise and repose must be kept up.

And lastly, as the teacher stands for the time in the place of the parent, he must set a good example to his little ones, and lead them to virtue by encouraging every good impulse, and constantly watching for and repressing evil tendencies.

Moral Education.

It is more particularly for the first formation of moral character that infant schools are valuable; for, by commencing at so early an age, and before bad habits are formed, we have not only little to undo, but we have the immense advantage of making first impressions on the opening mind.

Every event in the life of a child must be made subservient to this end; nor can any of its acts be considered unimportant, since they all leave their traces on its future character. The watchful eye of the teacher must ever follow the child. It is the play-ground which first introduces it into social life; there the free play of the limbs is accompanied by an equally free development of the passions; each individual disposition stands out in bold relief, and all the hidden springs of action are revealed, thereby enabling the teacher to apply to each that mode of treatment which is best suited to its nature. No interference which is not positively necessary, should take place with the freedom of the child; but each incident requiring comment ought to be observed and stored up for future instruction in the quiet of the school-room.

The selfish principle is the great obstacle to moral training. All goes on smoothly so long as there is no *bone of contention*; for even in the merest infant we may trace almost every outbreak of the evil passions to a desire for the possession of some real or fancied advantage. To moderate this strong instinct, to teach self-denial and self-control, must be the first care of the teacher. We give the following extract on this subject from Simpson's "*Philosophy of Education*:"—

Moral education embraces both the animal and moral impulses; it regulates the former and strengthens the latter. Whenever gluttony, indelicacy, violence, cruelty, greediness, cowardice, pride, insolence, vanity, or any other mode of selfishness, shows itself in the individual under training, one and all must be repressed with the most watchful solicitude and the most skillful treatment. Repression may at first fail to be accomplished unless by severity; but the instructor, sufficiently enlightened in the faculties, will, in the first practicable moment, drop the coercive system, and awaken and appeal powerfully to the higher faculties of conscience and benevolence, and to the power of reflection. This done with

kindness, in other words, with a marked manifestation of benevolence itself, will operate with a power, the extent of which, in education, is yet to a very limited extent estimated. In the very exercise of the superior faculties the inferior are indirectly acquiring a habit of restraint and regulation; for it is morally impossible to cultivate the superior faculties without a simultaneous, though indirect, regulation of the inferior.

But in order to carry on this training without impairing the happiness of the child, every reasonable pleasure must be allowed, and above all, those simple enjoyments promoted, which, by exercising the bodily powers, encourage cheerfulness and predispose to good humor.

Every thing that can please, attract, or interest, and thereby draw away the mind from low desires, should be sought. Perfect cleanliness and order must pervade the school and play-ground. Flowers, shrubs, and simple ornaments, as shells, models, natural objects, and pictures, all afford great delight to the young, and create pleasant associations in the mind with the idea of school. The aim of making school agreeable should pervade every arrangement. Unless the children love the teacher, the school, their lessons, and their companions, they will not be happy; and love, like every feeling, must have a cause.

But besides that kind of moral training which arises out of the actions and events of the day, another important mode is open to us. Children are universally fond of *office*, and it is both reward and excellent training to employ them in regular duties. The trust thus reposed, elevates and strengthens the character, and even the faults arising from an abuse of trust give rise to excellent opportunities for explaining and confirming moral principles. On these grounds, various offices are created amongst the children, which are frequently transferred from one to another, so as to try the character of each. It will also be found that different children are fitted for different duties, and thus the waste energies of all can be made useful. For instance, a very restless and active child will make a good monitor of order. Some children from their love of order are happy when employed in keeping the school neat and putting every thing in its place. Others delight to guide and assist the very little children, and are pleased when one is committed to their care. Some, from their steadiness of character, may be intrusted with the books, clothes and bread, of their respective classes, while the busy intellects can be employed to teach simple lessons to the little ones.

To carry out the training of the child it is necessary that parents and teachers should act in concert. It is comparatively of little use for the teacher to pursue one system at school, whilst a counteracting one is going on at home. This latter must be changed.

This is plainly the teacher's duty, as well as to keep up a friendly relation with the parents generally, by which means the ideas of school and home will become connected, and the child prevented from assuming two characters, which is too often the case. Both school and home will benefit by this mutual influence, and a greater consistency of conduct be obtained. A child who has been visited in sickness by its teacher will never forget the kindness, and I have known more improvement arise in the conduct and studies of some children, from having called at their homes, and spoken of them in an encouraging, hopeful manner, than by any other means; while in all cases the home influence is the most useful and natural auxiliary on which the teacher has to rely.

As an inseparable adjunct of moral training, outward amenity and delicacy of demeanor must be carefully cultivated. Coarseness, vulgarity, and rudeness, debase and brutalize; while refinement of manner and consideration for the feeling and comfort of others, not only render the intercourse of life delightful, but promote internal purity and elevation of feeling. It is plain that one means of improving the manners of the children, is for the teacher to show an example of gentleness and propriety, which will be insensibly imitated by them. But this is not entirely sufficient; errors and habits must be corrected in individual cases, and, when general, made the subject of lessons to the whole school. No more should be said to the children on these subjects than is actually necessary, as frequently remarking their behavior will make them nervous and unnatural. A good tone of manners once established can be kept up quietly without calling much attention to it. Consider that personal habits are generally acquired more *by habit* than by direct teaching. Cleanliness, for instance, is (as far as the child is concerned) easily acquired, if care be taken to notice a child when clean with approval, and gently to admonish it for any willful neglect, in unnecessarily soiling either its person or its clothes.

Obedience to the teacher's commands must of course be secured, but, as a general principle, it should be a willing obedience. To obtain this, the teacher must first gain the affections of the child, and take care to require only what is just and reasonable.

Truth.—Infants have at first very vague notions about truth and falsehood, and we must be careful not to attribute the wanderings of the imagination, or the momentary effects of timidity, to deliberate intention. We have often known children indulge in a kind of romance, and tell long histories, as if true, which never occurred, without being aware they were doing wrong until it was pointed out to them. *Fear*

also is so very likely to lead to concealment that every inducement to candor should be held out, and when a little child once *confesses* a fault, it is questionable whether punishment should ever be inflicted.

Gentleness.—The exciting causes being as much as possible removed, outbreaks of anger will diminish, and the passion come under control. When *rights* are clearly defined and rules for the conduct of each established, quarrels will no longer be frequent; and as every case of wrong or injury is investigated, and just judgment given, a positive check will be put to such occurrences, and a gentleness of manner be induced.

Generosity.—Every thing that is ungenerous, such as a disposition to report and magnify the faults of others, or to depreciate them and to exalt self, must be discouraged, and a liberal, generous spirit cultivated and encouraged; for by this alone can the intercourse of the children be rendered happy.

Ridicule.—Children are so keenly sensible to ridicule, that the worst effects would flow from allowing them to deride each other, and the disposition to do so should be carefully repressed.

Pride.—In our anxious endeavors to encourage virtue or merit of any kind, we must be careful not to nourish pride. Children should be encouraged as far as possible to learn for learning's sake, to deny themselves for virtue's sake, and always to act from a sense of duty. The dangerous stimulus of public reward or praise should be administered with care; and above all things, the teacher must avoid making *show-children*, either for talent or virtue. To do so is often the greatest injury to those whom we think to benefit. For this reason also, offices of trust ought not to be confined too exclusively to a small number of children, however meritorious, as they will come to look down on the less favored, and believe themselves superior in nature and abilities; even to confine singing, drawing, or any accomplishment to a small class is often an injury to them. If possible, every one should have the same chance of learning; there will still always be difference enough arising from unequal natural abilities.

Tyranny and exclusiveness.—A few individuals in a school will generally try to tyrannize over the rest, and to monopolize the amusements which should be common to all. The remedy is very simple. Rules securing freedom and justice to all must be made, and strictly enforced, and, when necessary, lessons given explaining the evil tendency of such faults.

Cruelty to animals, and destructiveness.—Many children seem to delight in destroying insects, and ill-treating animals; and this habit, if allowed to strengthen, would undoubtedly lead to an unamiable

disposition, and should be counteracted by proper lessons explaining the suffering they cause to animals, and the wrong they commit by ill-treating them. With regard also to inanimate objects, a careful, conservative spirit should be inculcated, which is best done by giving them an interest in, and teaching them to examine and admire works of art and natural objects.

Mutual love and benevolence.—Every opportunity should be sought for cultivating the higher feelings. The elder children should be taught to succor and assist the younger ones. When a child is hurt, or ill, or in any trouble, the teachers should hasten to set an example of kindness, by doing all in their power for its comfort and relief. Anecdotes and histories illustrative of kindness may also be frequently related in the gallery with a similar view.

Courage.—Many children are timid from constitutional causes, others are rendered so by injudicious treatment at home, while some have vague terrors at sight of some particular object, or in the dark, &c.; &c. From whatever cause fear arises, it should be counteracted by kind and judicious reasoning, and by encouraging the child to overcome its terrors. The mere association of many children together has a tendency to give to each a degree of fortitude and self-support.

Intellectual Education.

"I began with children," says Pestalozzi, "as nature does with savages, first bringing an image before their eyes, and then seeking a word to express the perception to which it gives rise."

This appears to be the true way to commence, since our ideas are first derived from nature; and as books merely represent this knowledge, it is plain that they instruct us only as far as we are able to connect the words they contain with the ideas those words represent.

We must begin by teaching real sounds, real forms, real colors, and real things. Before we use the word purple, we must distinctly impress upon the eye the color purple. If we would speak of a thing being square, we must take care first to impart the true notion of the form; and, when using the words rough or smooth, we should have previously made the mind acquainted with those sensations. The more we spread and enlarge these roots of knowledge, the more rapidly the future tree will grow, and the more vigorous will be the fructification. A child thoroughly drilled in real arithmetic by counting and arranging objects, will carry clearness and vigor into the artificial processes of figures; while a thorough comprehension of the qualities of common things will enable the learner to understand the

descriptions met with in history and geography, in a manner impossible without this elementary knowledge.

The spirit in which intellectual instruction should be carried on is of so much importance, that we are tempted to give the following clear and enlightened passage from Pestalozzi:—

The interest in study is the first thing which a teacher should endeavor to excite, and keep alive. There are scarcely any circumstances in which a want of application in children does not proceed from a want of interest; and there are perhaps none under which a want of interest does not originate in the mode of teaching adopted. I would go so far as to lay it down as a rule, that whenever children are inattentive, and apparently take no interest in a lesson, the teacher should always look to himself for the reason. When a quantity of dry matter is before a child, when a child is doomed to listen to lengthy explanations, or to go through exercises which have nothing in themselves to relieve and attract the mind, this is a tax upon the spirits which a teacher should make it a point to abstain from imposing. In the same manner, if the child, from the imperfection of his reasoning powers, or his non-acquaintance with facts, is unable to enter into the sense, or follow the chain of ideas in a lesson; when he is made to hear or to repeat what to him is but "sound without sense," this is perfectly absurd. And when to all this the fear of punishment is added, besides the tedium which in itself is punishment enough, it becomes absolute cruelty.

The first thing to be considered then is—how to create an interest in study, so as to cause the mind to receive and retain the necessary information. Knowledge may be divided into—first, that derived from the involuntary action of the senses, impressed by some outward object or event, which by its novelty or interest makes a distinct and permanent impression on the mind; and secondly, such as is obtained designedly by compelling the attention of the perceptive and reasoning powers to some subjects with which we wish to become acquainted. The first merely wants to be directed to become a fruitful source of improvement, but no child will adopt the second without some motive. It is of the highest importance to determine what that motive is to arise from. Two stimulants were much in vogue in the old system, *fear* and *ambition*; fear of the rod; and ambition to be considered clever, with a mingling of envy of the more gifted.

But will not *love* do more than fear? Will not the desire to acquire knowledge for its own sake, once awakened, do more than the wish to excel others? The answer is not difficult; and the choice once made, minor details will follow.

Mr. Wilderspin thus states his views of intellectual education:—

The error of the past system (for such I hope I may venture to call it) as to mental development was, that the inferior powers of the mind were called into activity, in preference to its higher faculties. The effort was to exercise the memory, and store it with information which, owing to the inactivity of the understanding and the judgment, was seldom or never of use. To adopt the opinions of others was thought quite enough, without the child being troubled to think for itself, and to form an opinion of its own. But this is not as it should be. Such a system is neither likely to produce great nor wise men, and is much better adapted to parrots than to children. Hence the first thing attempted in an infant school is, to set the children thinking—to induce them to examine, compare, and

judge, in reference to all those matters which their dawning intellects are capable of mastering. It is of no use to tell a child in the first place, *what it should think*;—this is at once inducing mental indolence, which is but too generally prevalent among adults, owing to this erroneous method having been adopted by those who had the charge of their early years. Were a child left to its own resources, to discover and judge of things exclusively by itself, though the opposite evil would be the consequence, namely, a state of comparative ignorance, yet I am doubtful whether it would be greater or more lamentable than that issuing from the injudicious system of giving children dogmas instead of problems, the opinions of others instead of eliciting their own. In the one case we should find a mind uninformed and uncultivated, but of a vigorous and masculine character, grasping the little knowledge it possessed with the power and right of a conqueror; in the other a memory occupied by a useless heap of notions,—without a single opinion or idea it could call its own,—and an understanding indolent and narrow, and from long indulged inactivity, almost incapable of exertion. As the fundamental principle of the system, I would therefore say, let the children think for themselves. If they arrive at erroneous conclusions, assist them in attaining the truth; but let them with such assistance arrive at it by their own exertions. Little good will be done if you say to a child,—*that is wrong, this is right*, unless you enable it to perceive the error of the one and the truth of the other. It is not only due to the child as a rational being that you should act so, but it is essentially necessary for the development of its intellectual faculties. It were not more ridiculous for a master in teaching arithmetic to give his pupil the problem and answer, without instructing him in the method of working the question, than it is for a person to give a child the result of reasoning, without showing how the truth is to be arrived at.

It will often happen that the mind of a child remains dull and inert, without any apparent cause; in most cases this arises from our not having discovered the peculiar taste or bias of the individual. While we are knocking at the outer gate, and groping in the dark, the mind is asleep within, and will not awaken until we can establish some means of communication; but once aroused, it is all bustle and activity.

It must be the constant care of the teacher to bring forth the latent powers of each pupil, and to allow to each the credit due to his efforts, although these may not in all cases be equally successful. For this reason the classification of the children should be made with reference to each separate subject. How absurd would it be to prevent a pupil from progressing in arithmetic, for which he may have a peculiar talent, because he is not quick in learning to read; or not to allow him to extend his knowledge of geography, because he is not a good arithmetician! Rather let us encourage the development of peculiar talents in each individual, thereby to give to all the consciousness of successful progress; and the self-respect arising from this feeling, will impart energy and motive to grapple with those studies which are difficult.

Nothing is of more importance than to watch the progress of the pupils, and remove them from class to class, as soon as they are fit. The child who is not advanced in proper time will retrograde. The spirit of learning flags when allowed to stand still, and it is often

difficult to recommence the onward movement. The subjects placed before each class should come in a natural order and succession, according to the previous advances of the mind.

The first efforts should be directed to the most simple perceptions. The blending of manual exercises and singing with the earlier lessons, deprives them of their dry character, and assists to keep up the attention, by bringing them to the level of the infant mind. The repetition of very simple rhymes, accompanied by amusing exercises, and rendered instructive by simple explanations, is also of great use in these first stages of instruction.

Whatever is useful and necessary to man, possesses an interest for the child. It wants to know about the food it eats—the house it lives in—the uses of each article of furniture—of tools men use—about its clothes—who makes them, and how—what they are made of—of its own body—of every thing relative to man, as well as the habits and economy of animals and plants; in fact, its curiosity is insatiable, because a knowledge of these things is necessary to its existence and well-being. It is evident that by taking advantage of this propensity, while only gratifying a natural impulse, an immense amount of information may be imparted, and at the same time the perception and the judgment cultivated.

Modes of Intellectual Instruction.

The different modes of intellectual instruction may be divided into—

1st. Intuitive teaching, by which the senses and perceptive faculties are trained, and the mind stored with a knowledge of surrounding things. This in an infant school is the first and most important mode.

2d. By Comparison—as when you exhibit two objects or pictures, and lead the pupil to observe the differences between them and guess at their causes.

3d. By Pictures and verbal descriptions—which depends for its success on the first having preceded it.

4th. By Questioning—which is chiefly valuable as it leads the mind of the learner to form conclusions of its own; or when, by questions put to the teacher, the pupil seeks to supply imperfections in his own conception of the subject.

5th. By Ellipses—a most valuable method of securing attention to any historical or descriptive lesson. It consists in interrupting the sense of a passage by omitting some necessary part, and leaving the pupil to discover from the foregone sense the suppressed word or phrase.

6th. By Imitation—as in writing, drawing, music, &c. To these

may be added exercises of the memory, as recitation and spelling. We do not mean that these various modes are always to be separately employed; on the contrary, some of them are generally combined with advantage; we only point out the distinct nature of each.

Intuitive teaching embraces all our perceptions of the external world through the senses, as form, number, size, position, motion, texture, color, sound in all its varieties, taste, odor, temperature and resistance. These qualities occurring in varied combinations in nature, it is the teacher's business to separate and present them in a simple, striking manner, so that the pupil may get a clear notion of the nature of each, and be able to trace its existence wherever it occurs, or to understand what is meant when the term expressing it is mentioned. But in imparting this knowledge, frequent recourse to *comparison* is necessary. In colors, for instance, shades of the same color become more evident when compared; differences of weight are more clearly perceived by the same means, as well as degrees of light and sound. Opposite qualities are also rendered more palpable by contrast, as transparent and opaque—solid and fluid.

It is plain that, without this preliminary knowledge, no description can be understood. We may, indeed leave its acquisition to chance and casual observation, but this will take too long for the purposes of education, and after all, will be a most imperfect process. It is better to overcome the difficulty at once by supplying systematically those elements upon which the future education is based. Second only to this direct knowledge of things present, are the notions derived from models and pictures. This is the first extension upwards of the previous foundation, and prepares the mind to receive and comprehend history and description.

Reading and the analysis of words become, from the first, an exercise of the reasoning powers, and should therefore be taught gradually and with care. If a judicious system is followed, the art of reading should be acquired without painful difficulty or overstraining the mind; it is, indeed, often forced on too fast, and then becomes mere parrot-work; the interest in reading will infallibly cease if what is read be not thoroughly understood.

The natural history of living things is exceedingly interesting to children when taught in a manner suited to their age, that is, with full illustration by pictures and by description.

Every thing must be first taught as a whole, without regard to niceties of structure: if an animal, its general form, color, size, motion, habits, &c.: and less striking points may be afterwards brought out by contrasting it with other species.

Geography, treating as it does of such vast subjects, should be very gradually approached. Ideas of time and space arise but very slowly in the mind; and it is only by carefully extending these conceptions that any approach to a just notion of the surface of the earth can be given. It is best to combine natural history and descriptions of the manners and customs of nations, with geographical teaching, so that, from the first, ideas of real things may be associated with names of places, otherwise unmeaning.

Narrative is always delightful to children, and may be introduced as the judgment of the teacher directs, to secure attention to the subject, whether moral or intellectual.

The education of the hand and eye in drawing, and of the ear in singing, not only cultivates the taste and refines the feelings, but also affords a pleasing variety of occupation and a relief from more intellectual studies.

The recitation of simple poetry, while it cultivates the memory, also serves a most important purpose in imparting a correct and pleasing pronunciation. As the first difficulties of reading tend to embarrass and retard speech, some counteracting process is required, and none is so pleasing to the child as repeating rhymes.

The arrangement of these several subjects in such order as shall give to all their due share of attention, and, at the same time, by their judicious alternation, produce the least fatigue to the learner, should be carefully studied by the teacher. Rest, both to men and infants, is often only another name for change of occupation; and it is possible, by a proper management of school business, greatly to lighten the labor of each successive study.

In concluding this subject, we beg to call attention to the following "Hints to Teachers," by an eminent authority, which we have found by long experience to be most useful and important.

Hints to Teachers.

The best mode of teaching any science may mean—

1—The best for the teacher's ease; (such as the books in "question and answer," which the learner is set to get by heart; for him the books are ill adapted, but they are good for the writer and book-seller because they sell; and for the master because they save him trouble.)

2—The best to make the pupil show off at a made-up examination.

3—The best for grounding him speedily and soundly in the science.

All teachers question their pupils, if there is even any attempt or pretense of advancing them properly.

Questioning is of three kinds—

1. Preliminary [or preparatory]* questioning (relates to the future.)
2. Instructive questioning (to the present.)
3. And examination questioning (to the past.)

All three very few persons employ designedly: the last two are used by all who at all deserve the name of good teachers: the third alone is employed by probably the majority.

1. The first consists in asking (orally or on paper) questions relative to what the pupil is about to learn, to try what notions or guesses he may form on each point.

This is an increase of trouble to the teacher, and, in the outset, taxes the efforts of the pupil by compelling him to think. In the end it will be found that he has learned much more rapidly and with more interest, more correctly and more permanently.

This mode is seldom employed designedly; but a man often finds how advantageously he has employed it for himself by accident; when he has learned a subject, for instance, by sitting down to write a book upon it.

If the teacher will have the courage to use this method systematically, by every day putting before his pupils questions relative to what they are next to learn, he will find himself doing wonders.

2. The second consists in asking questions as to the lessons actually before the pupils, to see how far they understand each passage, and can state it in their own words.

3. The third consists in examining them as to what they *have* learned, to try how well they retain it.

These three processes have been compared to the plowing, the sowing, and the harrowing of a field.

N. B.—You will judge from what has been said, what is the best and what the second best mode of advancing your pupils.

N. B.—You should frame examples for them and teach them to do so themselves.

It is not necessary that they should remember quite perfectly and rapidly each lesson before proceeding to the next; but they should clearly *understand* as they go on; and they should not advance far a-head of what they have perfectly learned. In particular, the technical terms and definitions should be as familiarly known as the alphabet; for technical language is an incumbrance to those not quite familiar with it, and a great help to those who are.

* Please to observe that the square [brackets] as distinguished from the common (parenthesis) denote a word or phrase equivalent to one before: and are used to guard the learner against mistaking it for a different thing. It is thus I should speak in geometry of "Trilateral figures," [or "Triangles."]

Physical Education.

All children require sound sleep, regular and wholesome meals, cleanliness, warmth, light, fresh air, and frequent exercise.

Mr. Wilderspin observes—"An inactive and healthy child under six years of age is never seen. * * * Children must exert all their muscular force, and employ all their ingenuity, in order to gratify their curiosity, and satisfy their little appetites. What they desire is only to be obtained at the cost of labor, patience, and many disappointments. By the exercise of body and mind necessary for satisfying their desires, they acquire agility, strength, and dexterity in their motions, as well as constitutional health and vigor; they learn to bear pain without dejection, and disappointment without despondency."

In winter time it is necessary to induce the children to exert themselves, by joining in and promoting their games; and when in the gallery on cold days, their lessons must be interrupted by vigorous manual exercises, to restore the animal heat, and with it cheerfulness and attention; while in summer it is equally important to promote quiet amusements, which do not heat or exhaust the children.

Every school-room should be well lighted, and the means of free ventilation provided. But this alone is not sufficient; relaxation in the open air is also necessary to health, for if kept constantly in the school-room, infants will not remain healthy.

The general rule for infants is, short lessons and frequent exercise. Overstraining the attention and intellectual powers, would infallibly injure the health of the child.

II. QUALIFICATIONS OF THE TEACHER.

"He, whene'er he taught,
Put so much of his heart into his act,
That his example had a magnet's force,
And all were swift to follow whom all loved."

The person who undertakes the charge of an infant school should be prepared to undergo much labor and anxiety, and to meet with many difficulties. On the other hand, it is a work full of interest, and yielding peculiar pleasures to those engaged in it. The dispositions necessary for success are kindness, gentleness, and patience towards the children, steadiness of temper, a habit of observation, cheerfulness and activity. To the usual branches of education the teacher of infants should add a knowledge of the elements of music, drawing, natural history, and as much general information as possible. The habit of study and observation must always be kept up, whether

in the fields, in the town, or at home ; a good teacher is always observing and storing up facts for future lessons, by which to attract the attention and inform the minds of his pupils.

Speaking of the first transfer of the children from the mother's care to that of the teacher, Pestalozzi says :—

It will therefore become possible even for a stranger, and one who is a stranger also to the mother, by a certain mode of conduct, to gain the affection and confidence of the child. To obtain them, the first requisite is constancy in the general conduct. It would appear scarcely credible, but it is strictly true, that children are not blind to, and that some children resent, the slightest deviation, for instance, from truth. In like manner, bad temper, once indulged, may go a great way to alienate the affection of the child, which can never be gained a second time by flatteries.

This fact is truly astonishing ; and it may also be quoted as evidence of the statement, that there is in the infant a pure sense of the true and the right, which struggles against the constant temptation arising from the weakness of human nature, and its tendency to falsehood and depravity.

In the following passage Mr. Wilderspin points out the error of employing incompetent teachers :—

It is indeed a melancholy truth, that moral training is yet to a very limited extent estimated ; and this is mainly owing to its not being understood by the generality of those selected for the office of teachers of infants ; nor can it be expected that persons of sufficient intellect and talent to comprehend and carry out this great object can be procured, until a sufficient remuneration is held out to them to make it worth their while to devote their whole energies to the subject. It is a fatal error to suppose that mere girls, taken perhaps from some laborious occupation, and whose sum total of education consists of reading and writing, can carry out views which it requires a philosophical mind, well stored with liberal ideas and general knowledge, to effect. They may be able to instruct the children in the mere mechanical parts of the system ; and as long as they confine themselves to this, they will go on capably ; but no farther than this can they go ; and though the children may appear to a casual visitor to be very nicely instructed, and very wonderful little creatures, on a closer examination they will be found mere automatons ; and then, perhaps without a further thought on the subject, the system will be blamed, not considering that the most perfect piece of mechanism will not work properly in any hands except those who thoroughly understand it.

We must however take this with some qualifications, and not despair of success even with ordinary teachers ; for daily experience proves that most persons by devoting their minds steadily to one subject, can attain to a certain proficiency, and this special study will enable a sufficient number to qualify themselves, whose views in life may lead them to devote themselves to the work. But in order to do so, they must at least know what they aim at, and this they can not do without a proper training in some well conducted model school. Perhaps it is more important that the infant school teacher should have received a regular course of training than any other. The plans are such as are not likely to be *guessed at* : when known, they present no insuperable difficulty, but it is necessary that they should be learned to be successfully practiced.

III. SCHOOL RULES AND REGULATIONS.

Good rules are as important for a school as good laws for a country; neither the one or the other will go on well without them. The rules for parents may be printed, and distributed to them when they enter their children. The rules for the internal management of the school should be explained to the children at stated periods.

RULES FOR PARENTS.

Parents are requested to observe the following rules:—

1. Parents wishing their children to be admitted must apply on any morning of the week, *except Monday*. The names, residences, &c., of the children will then be registered in a book kept for the purpose, and as vacancies occur, they will be sent for in the strict order of their respective applications—*except in the case of pupils who have been dismissed for irregularity of attendance, who are not to be received again till after all the other applicants shall have been admitted.*

2. No child can be admitted who is under two, or more than seven years of age.

3. The doors are closed every morning precisely at ten o'clock, and the children are dismissed at three, except on Saturdays, when the school closes at twelve o'clock.

4. If any child be frequently absent, or absent five days successively, and the cause be not made known to the teacher before the expiration of the five days, such child will be discharged from the school. If the parents wish the child to be readmitted, they must get the name entered in the application book as at first, and wait till after all the children who have applied for the first time shall have been admitted.

5. The payment is ——— per week, to be paid the first day in each week the child attends; and should any child be unavoidably absent, payment must nevertheless be made weekly so long as the parent wishes the name of the child to remain on the roll.

6. No child having any infectious disease, or who is deficient in personal cleanliness, can be admitted or retained in the school.

MAXIMS AND REGULATIONS TO BE OBSERVED BY THE TEACHER.

1. Endeavor to set a good example in all things.

2. Never overlook a fault: to do so is unjust to the children, since you will, no doubt, soon have to correct them for a repetition of it.

3. Spare no pains to investigate the truth of every charge; and, if you can not satisfy yourself, make no decision. Leave it to the future to develop.

4. Never correct a child in anger. It rarely happens that we know the truth of a case without investigation.

5. Do strict justice to all, and avoid favoritism.

6. Always prepare for your gallery lessons by previous study; never attempt to teach what you do not know thoroughly; and if at any time you are unable to answer a question put by the children, acknowledge your inability.

7. Try to bring forward the dull and backward children. The quick intellects will come on without your notice.

8. Teach *thoroughly*, and do not try to get on too fast; remember that you are laying the *foundations* of knowledge.

9. Never leave the children alone, either in the school-room or play-ground.

10. Attend strictly to the personal cleanliness of the children; and watch against the entrance of disease.

11. Let particular care be taken of the pictures, books, and apparatus, and see that all is kept in working order.

12. Attend to the cleanliness and neatness of the school-rooms and offices, and to the order and neatness of the play-ground and garden borders.

13. Attend to the ventilation and heating of the rooms. In summer keep the windows constantly open, in winter open them when the children go out to play.

14. Never let the children get chilled or overheated.
15. Do not be tempted to give undue attention to the elder, to the neglect of the younger classes. Such a course would be fatal to the general advancement of the school.
16. Take every opportunity of moral training. Consider that it is better to make children *good* than *clever*.
17. Constantly seek self-improvement, and try to enlarge your own stock of information. Remember that *knowledge is your stock in trade*.
18. Let your intercourse with the children be regulated by *love*. Remember that our blessed Lord-loved little children, and took them in his arms and blessed them.

SCHOOL-ROOM RULES, TO BE REPEATED BY THE CHILDREN AT THE CLOSE OF THE WEEK.

1. We ought to be kind and gentle in our conduct towards each other, and, when injured in any way, not to revenge ourselves, but seek the protection of the teacher.
2. Always to speak the truth without reserve.
3. Never to speak evil of others.
5. Never to take any thing which is not our own, nor keep any thing we may find belonging to another.
5. Never to covet any thing other children have, nor try to deprive them of it.
6. To obey the teachers in all things, and pay strict attention to their words.
7. To keep silence when in the gallery, except when permitted to speak, and never interrupt either the teacher or any other person who may be speaking.
8. To be strictly attentive to lessons at all times, and always seek an explanation of what we may not understand.
9. To keep our books whole and clean, and never to touch or injure the pictures or apparatus.
10. To come in time in the morning, and with clean hands, face, and clothes.

PLAY-GROUND RULES.

4. To be gentle in play, and careful not to hurt the very little children.
2. Not to be selfish or exclusive in play, but to endeavor to make others happy, as well as ourselves.
3. Never to interfere with or interrupt other children's amusements.
4. Always to try and comfort and assist any one who is hurt or in trouble.
5. To refer every cause of complaint to the teacher.
6. Not to touch or injure the flowers, nor to tread on the garden borders.
7. Each class to use the swings (or other gymnastics) in turn, as appointed.
8. Never to go in the way of the swings, nor interfere with others who may be using them.
9. To form quickly in line when the bell rings for lessons.

Sanitary Regulations.

VENTILATION.

Children breathe more quickly by about one-third than grown persons. A child under seven years of age will render impure nearly three cubic feet of air in a minute. Now if we take as an example a school-room forty feet long, twenty wide, and fourteen high, and say that there are one hundred infants in it at one time, it will give (allowing for the space occupied by gallery, furniture, &c.) about one hundred cubic feet of air for each pupil, and if there were no ventilation this stock would be exhausted in thirty-three minutes; but long before this limit is reached, the air of the room becomes unwholesome, the oxygen or life-supporting part of it being absorbed into the blood, and a deleterious gas (carbonic acid) returned in its stead; if means are not taken to remove this, and admit pure air, the children will become languid and dispirited, and their health will suffer. An air shaft, with an opening near the top of the room, having a sliding lid that can be raised or let down, is a simple and effectual mode of ventilation. Where no other means occur, the top sashes of the windows should be kept down a little, to allow the heated air to escape as it ascends.

CLEANLINESS.

Cleanliness is next in importance to ventilation: for, independently of the unpleasant and demoralizing character of a dirty school-room, the dust raised by so many feet, when taken into the lungs, is highly injurious.

TEMPERATURE.

When the room is heated by an open fire-place, it is well to admit the air for ventilation as near the fire as possible, as by that means a more equal warmth is kept up. It is dangerous to overheat the school-room, as it causes the children to take cold when changing to the play-ground: the temperature should not rise above 70° or fall much below 60° Fahrenheit.

DISEASE.

Although it is the parents' duty to attend to the health of the child, yet in epidemics or sudden illness, it is necessary for the teacher to be able to distinguish the premonitory signs of disease, as he stands for the time in the parents' place.

The following diseases may with certainty be considered as infectious:—Measles, scarletina, mumps, small-pox, and whooping-cough.

The symptoms of measles are sneezing, running from the eyes and nostrils, sickness, cough, together with heat of the skin and quick pulse.

The approach of scarletina is known by alternate shivering and heat, quick pulse, sickness, white tongue; and later, by red spots or patches on the face, neck, and chest.

Mumps are known by painful swellings above the sides of the throat, on a level with the ear.

Whooping-cough comes on like a common cold, but with violent cough, in which a watery fluid is expectorated; watery discharges from the eyes and nostrils; hoarseness and sneezing. The child is generally languid and out of spirits. When much advanced, the symptoms of this disease are so evident as not to require description.

A well-regulated school tends to preserve and improve the health of those attending it, but it is evidently necessary to return to the care of its parents any child who exhibits signs of sickness or disease. Even in case of common diarrhea the child should be immediately sent home.

In inspecting the children for cleanliness, the head should be particularly observed; and if there is any appearance of ring-worm or scald-head, the child should be kept at home until the disease has entirely disappeared, as both are infectious and troublesome, as are most cutaneous diseases.

ACCIDENTS.

Accidents rarely occur in a well-regulated school: but as there is a possibility of such things happening, where so many children are collected together, we give a few simple directions for treatment.

In case of a bruise or wound from a fall or other cause, the part should be washed clean, and a piece of old linen or lint dipped in cold water applied.

Sprains require the limb to be kept quite still, and bathed with vinegar and water.*

In case of a cut from any sharp instrument, slate or glass, bring the edges of the cut carefully together and apply a slip of common adhesive plaster.

Should so unfortunate a circumstance happen as that of a child falling into a fit from disease or constitutional causes, the children of the school should not be allowed to witness the painful sight, but the sufferer should be removed from the room, and exposed to the fresh air, with the clothes loosened. No restraint should be used in the convulsion, except to prevent the patient from injuring himself.

* His Grace the Archbishop of Dublin has kindly communicated to us the following note:—

† Tincture of arnica is now to be had at any chemist's. For a bruise or strain (when the skin is not broken) six drops to a table-spoonful of water (five for the wound when the skin is broken), make the lotion. A rag wetted with the lotion, and kept wet, to be kept on the place. There is nothing at all comparable to it for all hurts; but the bottle of tincture should be marked 'poison.' †

In conclusion, we may remark that children liable to fits, defective in sight or hearing, or affected in any other way which would require *special* attention from the teacher, should not be in a common school, the ordinary duties of which are arduous enough, without this additional perplexity.

The Play-ground.

With regard to recreation in the play-ground, let it be as unrestrained as possible; nature is the best gymnastic teacher, and little can be done to assist her. Whatever apparatus is introduced should be very simple, as scarcely any is free from danger. A dry floor under foot, a free circulation of air, and a constant gentle superintendence, which, by affording protection to the weak or injured, secures the greatest amount of liberty to each, are the chief requisites; and any one who has witnessed a well-regulated infants' play-ground, must be aware how perfectly the happiness of the assembled group is secured. If we come to inquire into the causes, we shall find that freedom and the gratification of the craving for sympathy and society are the chief. In the large number assembled together, each finds companions whose age and taste suit its own; peculiarities of character find free play. Some naturally take the place of *leaders*, while others are content to serve. If any one wishes to be an architect, he will soon find plenty of builders at his command. Perhaps another is a rider, and he easily persuades some one to be horse; or, if he likes to drive, he may have a whole team! In one place you may see a little knot of exclusives, who would not for the world admit another member to their club; while close by is a laughing face which has formed a dozen associations in the hour! Here the imitative faculty develops itself in a mimic school, including a very fair copy of the teacher (*peculiarities* and all) from which, if he be wise, he may take a lesson in turn. It is true that, in the first formation of the school, many of these different elements will come in collision, but constant moral training will teach them to associate together in harmony and love, and we repeat, *the less interference the better.*

No play-ground should be without a border of flowers, and, if possible, fruit trees. The moral discipline afforded by teaching the little ones to respect these things, is not their only use; they give pleasure to the senses and cultivate a love of nature. The gymnastic apparatus should be carefully watched to avoid accident, and the proper mode of using it be taught to the children.

Time Table.

The time table should be so arranged as to bring those lessons which require mental effort as distant from each other as possible, and to secure frequent relaxation in the play-ground. Those subjects

which require special attention should be introduced at the commencement of the day, before the mind is wearied or preoccupied. The general time table is as follows:*

DAILY TIME TABLE.

Nine o'clock: school doors opened; teacher in attendance; the children, as they arrive, deposit their clothes and bread in the baskets which are placed at the respective class posts, and proceed to the play-ground. Where there is a monitor's class, it is taught at this hour.

Ten o'clock: children assembled in galleries for morning lesson.

Half-past ten: reading, the elder children in classes, the younger in galleries.

Half-past eleven: march to play-ground for recreation.

Twelve o'clock: writing lesson.

Twenty minutes past twelve: drawing.

Twenty minutes to one: march to gallery for midday lesson.

Ten minutes past one: lunch hour.

Thirty minutes past one: dismissed to play-ground.

Two o'clock: in gallery for afternoon lesson, or in circulating classes for picture or object lessons.

Three o'clock: school dismissed.

Synopsis of a Week's Lessons for the Elder Classes.

The object of the following arrangement is to secure, first, the recurrence of each subject at certain intervals; and secondly, to indicate the manner in which its several parts should be taken up in successive lessons, so as to avoid a desultory and confused method of teaching on the one hand, or the neglect of any material point on the other.

MONDAY.

Morning Lesson.—Arithmetic, enumeration of real objects, the ball-frame, notation with blackboard.

Reading.—Preliminary questions on the subject of the lesson, with explanations. Teacher then reads a portion of the lesson, with remarks upon punctuation, and tone of voice. Children read, classify words in first sentences. Spelling.

Midday Lesson.—Geography, Map of the World, first outlines—cardinal points—circles—climates—division of time and seasons.

Afternoon Lesson.—Developing lesson—form, lines, and plane figures, with illustrations from objects. Teacher draws on blackboard simple outlines, children analyze them. Song, "Geometrical lines."

TUESDAY.

Morning Lesson.—Singing exercises on tone and time, concluding with a song.

Reading.—Children read, questions on the meanings of words, substitution of words, parts of speech, spelling.

Midday Lesson.—Arithmetic, addition and subtraction, with ball-frame and blackboard.

Afternoon Lesson.—Geography, division of land, continents, islands, peninsulas, countries. Song, "The solid earth."

WEDNESDAY.

Morning Lesson.—Developing lesson, color, texture of surfaces, structure, (as laminar, fibrous, &c.)

Reading.—Children read, teacher then reads with ellipses, requiring the children to complete the sense. Questions on the time of verbs, number and gender of nouns, and comparison of adjectives. Spelling.

Midday Lesson.—Singing. Teacher sings the melody to be learned twice or oftener to the children, explains the style and time, then the children sing it with the teacher.

* In Ireland the general school hours are from ten until three o'clock, while in England the children attend twice in the day; in the morning from nine until twelve, and, in the afternoon, from two until four or five o'clock.

† The reading classes come up twice, first to read, and then they return to their seats to look over the lesson again for questions and spelling; otherwise the lesson would be too fatiguing. When the subject of the lesson is sacred history, it should not be made the basis of any grammatical teaching.

Afternoon Lesson.—Picture lessons. The monitors should have been well trained previously. The classes must move exactly at the appointed time, and the teacher go from class to class, assisting and directing, so as to keep up the spirit of the lesson.

THURSDAY.

Morning Lesson.—Geography. Divisions of water, oceans, seas, gulfs, lakes, rivers, with explanations of each term.

Reading.—Teacher reads slowly, purposely making errors in punctuation, &c., requiring the children to look on their books and correct them. Children read; classification of words. Spelling.

Midday Lesson.—Developing lesson. Weight, with illustrations of mechanical powers.

Afternoon Lesson.—Arithmetic. Multiplication and division, with ball-frame and blackboard.

FRIDAY.

Morning Lesson.—Singing. Children sing; teacher listens, corrects, and instructs; gives explanations of the words of the song.

Reading.—Children read, and ask the teacher questions on the subject, and meanings of words. Spelling.

Midday Lesson.—Arithmetic. Mental arithmetic and illustrations of fractional parts by drawing on the blackboard.

Afternoon Lesson.—Natural history of animals and plants, with pictures.

SATURDAY.

Morning Lesson.—Geography. Capital cities, national characteristics and exports

Second Lesson.—Singing. Recapitulation of songs of the week.

The foregoing is only given as a specimen, as each teacher should arrange his own work in accordance with the circumstances of his particular school. It will be seen that no place is given above for religious instruction, as that must entirely depend upon local arrangements; but, as a general principle, the commencement or close of the day should be selected for this important exercise.

Moral lessons will intermingle themselves with all others, and must be taken up as they arise; it is, however, a good practice to defer any important investigation to the beginning of the afternoon gallery lesson.

IV. DEVELOPING LESSONS.

For want of the habit of observing the properties of common things, and the evident conclusions to which such observation must lead, the most lamentable errors are often committed even by those who are considered educated. People are continually committing follies of which an unreasoning animal would scarcely be guilty. We have seen a person deliberately put one foot on the step of a carriage in motion, fully expecting the road to move on to accommodate the remaining foot. How few, when called upon for any muscular effort, know how to economize their strength, or can judge of the weights they are about to move. How few servants or parents think of the nature of the articles of food or of utility under their care, or reason on the cause of smoky fires, ill-cooked food, or ill-ventilated rooms, or could tell why danger lurks in a copper saucepan or a leaden cistern, or distinguish a mushroom from a fungus. To look beyond mere utility, how much intellectual improvement do we lose for want

of the habit of observation. To many persons nature is a sealed book. When they walk abroad, the animal and vegetable life around them appears but a hopeless mass of confusion, in which they fail to perceive the order and beauty of Divine wisdom. To them the stars tell no wonders, mark no seasons, and, from a want of this knowledge in the reader, the most accurately written description often conveys but a vague shadow of the reality. To remedy these evils, the education of the perceptive faculties must be commenced in infancy, carried on in youth, and confirmed in manhood.

To cultivate the latent powers of children is the intention of those lessons which, in an infant school, are called developing. If, for instance, the ear be not trained in early life, the power of distinguishing musical sounds remains very imperfect; yet, in a school, all will learn to sing, unless where any positive defect of hearing or voice exists. The same may be said of drawing, which is less difficult in many respects than writing. Take, as a further example, the faculty which enables us to judge of weight or resistance, and observe how it becomes strengthened by education in workmen who have to perform mechanical operations; no doubt there are differences of natural ability in this respect, but most men acquire sufficient skill for the purposes of their respective arts. Now the business of elementary education, in its widest sense, embraces the development and training of every faculty so far as is necessary for the common purposes of life, and, in so doing, it prepares the pupil for special instruction of whatever kind.

From much experience, we have found that it is better to commence by teaching the properties of things separately; so that each may make a distinct impression before the pupil is required to recognize it when in combination. Simple perceptions may be divided into those of form, size, position, number, weight, motion, color, temperature, taste, odor, and sound; all these require cultivation; and as the senses are the channels by which they are conveyed to the mind, their nature and mutual relation must be studied by the teacher. By the *eye*, we perceive form, size, position, motion, number, and color; by the *ear*, all sounds; by the sense of touch we perceive heat and cold, weight, form, motion, texture, size, and number. The senses of taste and smell are very intimately connected with each other, both in their uses and mode of action.

The education of the senses commences with life itself, so that even the youngest child in an infant school has already acquired many ideas; and were it not so, the difficulties of the teacher would be almost insurmountable; as it is, enough remains to be done in

establishing a relation between words and things, and training the mind to correct methodical observation, before ordinary instruction can commence. We have found in practice that *form* is the most striking quality of bodies, and therefore the best to commence with; as, from its being capable of clearer definition, it is more easily comprehended than any other.

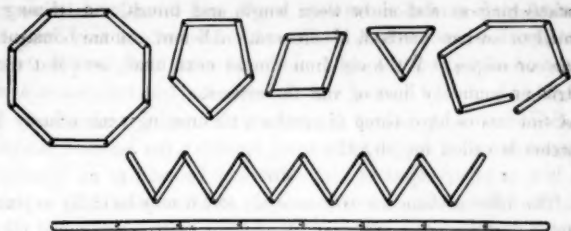
Form.

The first exercise for the younger children should be to learn to distinguish and name the regular polygons, without entering into any explanation of their properties. The best means of doing this, is for the teacher to prepare a set of models in card or pasteboard, of the required forms, of not less than six inches diameter each, which should be exhibited singly, and the name repeated by the children. If two sets be prepared, it is a good first exercise for the teacher to hold up a form and require the little learner to select a similar one to match it; when, the two being placed on each other, their identity can be shown.

In further explaining the properties of figures, we must advance by slow degrees, and beware of impatience or haste; and, as each definition is given, it should be fixed in the mind by abundant illustration, as the great object is to give certainty and clearness to the mind.

We suppose the children to be seated in the gallery for these lessons, and the teacher furnished with a blackboard and chalk. Each figure required for illustration must be accurately drawn; for although a student far advanced in geometry may be able to comprehend a diagram rudely sketched, because he has in his mind a correct conception of what is intended, yet, in imparting first ideas of form to children, it is indispensable that all representations should be truly and neatly drawn. Should the teacher be unable to do this by hand, a ruler and compasses will smooth all difficulties, and the necessary diagrams may be prepared beforehand, to save time during the lesson. Large compasses constructed of wood, with a chalk-holder, can be obtained; or a very good substitute may be made with a lath, a foot long, having a piece of chalk tied to one end and a common brad-awl inserted at the other, to form a center, by shifting the place of which, circles of different diameters may be accurately delineated. With two centers and a loop of twine, ellipses can be drawn; and the sight of these simple contrivances is instructive to the children.

Another means of illustrating geometrical forms is by the goni-graph, an instrument consisting of ten short rulers or joints of iron hinged together. The facility with which various lines and forms can be represented by this contrivance, renders it very popular in infant



GONIOGRAPH.

schools; and it has the additional advantage, that it can be used by the children themselves.

We now proceed to give such hints as are necessary for the order and succession of lessons on this subject, which the teacher must further expand and illustrate.

Length.—The first step is to give a clear conception of extension in one direction. Draw a fine straight line, and explain that it has *length* only; measure it with a string or compasses, and then give various illustrations of length, or distance from one point to another; stretch a string or tape, divided into feet, along the room, and show that the room is so many feet long; remove the string, and explain that the length of the room is still there, and would be the same whether the room was wide or narrow. Make the different children tell where they live, and point out that some have far to come to school, and others a less distance—that in each case we speak only of the *length* of the way, not of its width. Extend these illustrations: as the length of a stick, of a road, a street, a table, the play-ground, a line, and the like. Also draw proportional lines, and compare them. Distance from one place to another is always said to be so far, or so long; and never so broad, or so thick. A road would be just as long whether it was a good road or a bad one; whether we ran or walked along it, or went by a railroad, we should go over the same distance, although in different periods of time.

Length and breadth.—A surface has length and breadth, but no thickness; it is the outside boundary of any thing, as the surface of the floor, of the ceiling, the walls, the play-ground, and so forth. The largest measure of the floor is called length; the smallest, breadth, or width. One child may be made to walk *along* the room, and another *across* it. It may be pointed out, that if either the length or breadth of the room were made less, the *surface* of the floor would be smaller; and if the length of the play-ground were increased, its surface would be greater. The children may be made to point out

various surfaces, and show their length and breadth; as those of a card, pocket-handkerchief, blackboard. All surfaces are bounded by lines or edges, and the children should next touch or point to the edges or boundary lines of various surfaces.

Solid bodies have three dimensions, all crossing each other. The largest is called length; the next, breadth; the smallest, thickness. A box, or other object of some size, may be used as an illustration, and its different dimensions measured; and it may be easily explained that it occupies some space, and that many such objects would fill the room. Other illustrations should be given, and the children encouraged to point out solid objects, and guess at their different dimensions. Let the children repeat these definitions together.

A *line* has length only.

A *surface* has length and breadth.

A *solid* has length, breadth, and thickness.

Familiar illustrations should be given of these properties; as, any number of lines put together would not make the thickness of the smallest thread; the whole surface of the floor is no part of the substance of the floor, but only the outside or boundary, and has no weight, or thickness.

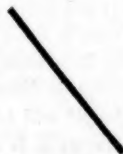
Lines.

Lines define the shape and boundary of things, and by lines all things are measured. A line is the distance from one point to another. These points are called its ends. Lines are divided into *right* lines, or the shortest distance between two points, as when a string is stretched tightly; and *curved* lines. Curved lines are of many varieties, as circular and elliptical curves. Illustrations must be given on the blackboard, and the children required to find examples for themselves, in various objects, of *straight*, *curved*, *waved*, *spiral*, and other lines. The *direction* of lines should next be taught, as horizontal, perpendicular, oblique, parallel, converging, and diverging lines.

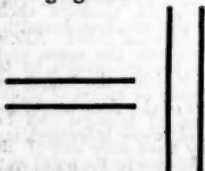
HORIZONTAL.



PERPENDICULAR



OBLIQUE.



PARALLELS.



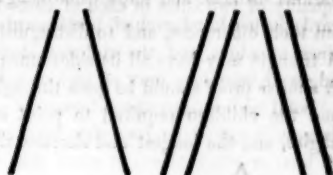
CURVED.



WAVING.



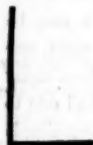
SPIRAL.



DIVERGING.

Angles.

When lines meet or cross each other, they form angles or corners. Give examples: as the corner of the room, of a book, a board, a table. Draw on the blackboard the three varieties of angles, right, acute, and obtuse; require the children to point them out frequently,



RIGHT ANGLE.



ACUTE ANGLE.



OBTUSE ANGLE.

and to find other angles or corners answering to them. Make the children form the different angles for themselves with the gonigraph, or draw them on the blackboard, or on slates held in the lap; show how many angles can be formed with *two* lines; with *three*, *four*, *five*. These figures should be drawn on a large scale, and the children required to count and point to the different angles.

Plane Figures.

Lines are said to be parallel when they are at the same distance from each other in every part; if ever so long, they will never meet. Two lines in any other position, on the same plane, converge, and will meet or cross each other; but in no case will they form a polygon or enclose a space. This must be easily illustrated with two rulers, or two school forms, which can not be made to enclose a space between them. A farmer could not enclose a field with *two* straight hedges: *two* straight walls would not make a house or room; but *three* straight lines will enclose a space, and form a triangle. Draw an accurate equilateral triangle on the blackboard, measure each side with a string or compasses, and prove it to be equal-sided. Allow some of the children to form the same with the gonigraph, or to attempt to draw it, or to form it with three laths or rulers of equal length. Explain to them that only *one* kind of triangle can be formed with the same sides. A triangle may have only two of its sides equal, and is then called isosceles. Prove to the children the

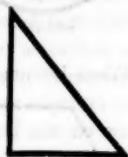
equality of two sides in each of these figures, and lead them to point out their differences, and to distinguish the different kinds of angles. A triangle may have all its sides unequal, and is then called scalene. A similar proof should be gone through of the inequality of the sides, and the children required to point out the acute, right, or obtuse angles, and the longest and shortest sides of each figure.



EQUILATERAL TRIANGLE.



ISOSCELES TRIANGLE.



SCALENE TRIANGLE.

In describing an equilateral triangle to little children, it may be said consist of three equal straight lines, one leaning to the right, one to the left, and one horizontal; it may also be divided into three equal acute angles; one opening downwards, one to the right, and one to the left. All the other triangles should be analyzed in the same simple manner, and representations of various objects in which they occur should be sketched, and the intelligence of the children exercised in distinguishing them.

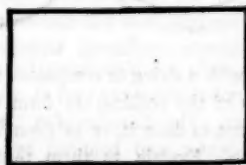
A square has four equal sides, and four right angles: if its two opposite sides are horizontal, the other two will be vertical. The opposite sides of a square are parallel: the distance from the corner A to the corner c is equal to the distance from the corner B to the corner D. A square may be described as four right angles. If a square is first formed with a gonigraph, and the opposite angles pressed toward each other, a rhomb is produced; the sides are still equal, but the angles are no longer right angles, two opposite ones being acute, and the other two obtuse. Many representative figures may now be formed for the amusement and observation of the children, composed of the triangle, square and rhomb.



SQUARE.



RHOMB.



RECTANGLE.

A rectangle has four right angles, and its opposite sides are equal

but its adjacent sides may be unequal. It may thus be resolved into four right angles with unequal legs. As this is a form of frequent occurrence, sufficient illustrations may be found in surrounding objects, as windows, doors, slates, books, &c. The oblique parallelogram or rhomboid has its opposite sides and angles equal; but its adjacent angles and sides unequal. It may be separated into two acute and two obtuse angles with unequal legs.

The other four-sided figures are those with three equal sides, with two, and those in which all the sides are unequal: they are called trapeziums. A pentagon has five equal sides and five equal obtuse



HEXAGON.



OCTAGON.



PENTAGON.



angles, and may be said to consist of five obtuse angles. The other regular polygons are, the hexagon, six sides; heptagon, seven sides; octagon, eight sides; nonagon, nine sides; and decagon, ten sides. All these should be carefully constructed before the children, by first drawing a circle, and then dividing the circumference into the proper number of parts, and uniting the points so obtained by lines. These figures can also be formed with the greatest facility with the goniograph, and should be thoroughly learned and analyzed in every way before we proceed further.



CIRCLE.



HALF-CIRCLE.

A circle is a plain figure bounded by a single curved line, called its circumference, every part of which is at the same distance from the center. The diameter of a circle is a straight line passing through the center, and bounded by the circumference. The radius is a straight line drawn from the center to the circumference. The parts of the circle having been repeatedly drawn and explained, it should



ELLIPSES.

be divided into semicircle, quadrant, segment, and octant. The nature of the ellipse is best illustrated by constructing it before the children, and varying the proportionate axes.

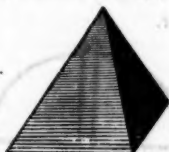
A spiral line may be illustrated by a slip of card rolled up and allowed to uncoil by its elasticity; by a piece of watch-spring; by the tendrils of plants; and its occurrence may be pointed out in univalve shells. The line may be drawn for illustration, by tying a piece of chalk to a string, and winding the string about a fixed spindle as a center, and tracing the line as you unwind it. Waved lines are shown by the moving surface of water, or by a cord shaken, and by drawing.

Solids.—Definitions.

A tetrahedron is a figure bounded by four equilateral triangles. It has six edges, four solid angles, and twelve plane angles.



TETRAHEDRON.



SQUARE PYRAMID.



TRIANGULAR PRISM.

A square pyramid is bounded by four triangular sides and a square base. It has eight edges, five solid angles, and sixteen plane angles.

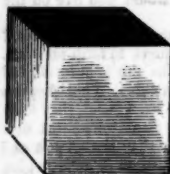
A triangular prism is bounded by two equal and parallel triangles and three rectangles. It has nine edges, six solid angles and eighteen plane angles.

A cube is bounded by six square sides, and has twelve edges, eight solid angles, and twenty-four plane angles.

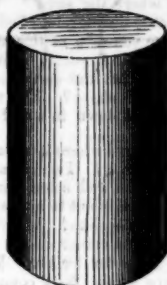
A cylinder is bounded by two equal plane circles, parallel to each other, and united by one curved surface.

A cone is a figure having a circle for its base, its side being a curved surface ending in a point, called its apex.

A sphere is bounded by one continued curved surface, which is every where at the same distance from its center.



CUBE.



CYLINDER.

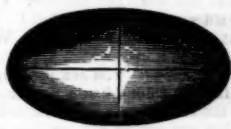


CONE.

A spheriod is a solid formed by the revolution of an ellipse about its axes.



SPHERE.



SPHERIOD.

The regular solids made in wood should be first named and distinguished by the children, without explanation; and they should be made to mention as many things as possible which they may happen to know of the same shapes. They should then learn to distinguish and count the edges, sides, corners or solid angles, and plane angles. By drawing the mathematical figures on pasteboard, and then cutting the lines half through, so that the parts can be turned up and brought together, they will represent the first four angular solids, and afford a very useful explanation to children. Also, by means of wire forms, the manner in which the curved solids are generated may be shown; for instance, by suspending a ring or hoop, and causing it to revolve, a sphere is described. In the same manner, a triangle in revolving will describe a cone; an ellipse a spheriod; and a square or oblong a cylinder.

Specimen Lesson on Form.—Solids.

How many objects have I placed before you?

Are they all alike? Are they different in shape or in size? Are they made of the same substance? Repeat their names after me, sphere, cube, cylinder, cone. Repeat the name of each as I point to it. Who will come and point out the sphere? That is right; now look at it, and see if it has a flat side. No; it

has only one curved surface. Is it the same in every part? If the surface were not the same in every part would it be a sphere? Repeat with me, "A sphere has one curved surface, every where the same." What part of it do you see, the inside or the outside? What is the outside called? What is the middle of a solid called? What things have you seen of this shape? If a marble or a ball were not exactly a sphere, would it roll evenly? What then is the best form for a ball or marble? Do you know that the earth on which we live, and the sun and moon, are nearly like this ball in shape? Now tell me what part of the earth do you live on? Suppose you lived down in a coal mine, would you live on the surface then?

Which of these two solids will stand where it is placed, the sphere or the cube? Why? Do you know what an edge is? Two sides must meet to form an edge. Some edges are sharp, some square, and some blunt. Has the sphere edges? One of you, little children, come and point to a side of the cube. What shape is the side? Are all the sides of a cube alike? Where three sides meet, they form a corner or solid angle. Show me a corner of the cube. Some one must now come and count the sides of the cube for me. You see they are all flat and square. Repeat, six flat square sides. Now count the corners or solid angles. Three plane angles meet to form one solid angle, and three edges, as well as three sides, meet in each angle. Repeat, eight solid angles or corners, in a cube. Now count the edges; pass your finger along each; say, twelve straight edges. Repeat the parts of the cube again; six square sides, eight solid angles, twelve edges. Now tell me the parts of a sphere; one curved surface, every where the same, and always at the same distance from the center. Name all the things you can which are like a sphere,—now those like a cube. Show me the edges and corners of this box—the surfaces. Can I roll this box along? No; because it has flat sides. Can I roll the ball? Yes, because it is curved.

What figure is this? A cone. Will it stand? Yes, because it has one flat surface. Take it up, and tell me what shape the part is on which it rests. What is this part called? You can not tell, I see, so I must tell you. It is called the base. Repeat, a cone has a flat circular base. How many surfaces do you see, besides the base? It is flat or curved? What does it end in at the top? Say, a cone has one curved side ending in a point. Has it any edges? Now repeat the names of the parts of the cone, as I point to them—one flat circular base, one circular edge, one curved side, one point. Look, I have made a cone of paper. Is it like the other cone? No, they are not alike; for the paper one you see, is hollow, but the wooden one is solid; and as this little child here says, the paper one is longer and narrower; but you see, children, that the parts of both are the same; each has a point, side, edge, and base.

Who will find me the cylinder? Has it one end or two? What shape are they? Repeat, two circular flat ends. How many curved surfaces has it? Say, one circular curved surface. Now think of all the things you have seen of this shape. Are the handbox and drum solid? You have mentioned a column, a pole, a roller, as being like a cylinder; are *they* solid or hollow? Is the cylinder a good shape to roll along? Yes, and the two opposite wheels of a coach are like a cylinder with the middle part cut away. Will a cone roll along? No; you see it will only roll round in a circle. Which of the four solids before us is most like the stem of a tree? Which resembles an orange? Which is nearest to the shape of the room we are in? Which is like a sugar-loaf?

These questions should be extended and sometimes reversed; as, What is shaped like a cylinder? &c.

The advantage gained by learning first the regular geometric figures is the accuracy and certainty which it gives the learner; but, whatever the lesson may be in which *objects* are used, their forms should be analyzed.

Color.

The most simple means we know of by which to impart an accurate knowledge of this subject is to have the various tints on separate cards, and beginning with the three primitive colors, red, blue, and yellow, to exhibit several shades of each, taking care to impress them

separately upon the memory. These various cards may then be thrown together, and the children exercised in selecting particular tints. In subsequent lessons, the colors in clothes, pictures, and other objects may be distinguished, and then the memory exercised by calling to mind absent things in which they occur. The intermediate colors, purple, orange, and green should next be gone through in the same manner; proceeding then to the less pure, as brown and gray. It will be found that very few children have any certain knowledge of colors without this instruction, and that it can be made attractive by constant reference to nature. When the subject is so far learned, it may be extended by teaching the distinction between reflected colors and those transmitted through transparent substances, as glass, fluids, and air. Prismatic colors may be easily shown, by throwing the spectrum of the sun's rays on a wall or ceiling, and by allowing the children to look through the prism.

The colors of thin films are easily shown, by letting fall a drop of oil on the surface of water, or in soap-bubbles. Various other distinctions will occur to the teacher, who should consider that the knowledge of these simple elements is most important to the future progress of the child.

Specimen Lesson—Primitive Colors.

Teacher—I am going to give you a lesson about colors to-day; but first, can you tell me what enables you to see them? If your eyes make you see colors, how is it that you can not see them at night? Well, now tell me how it is that you can see in the day. Yes; that is, without the light you could not see things at all. Are all things colored? No; some things are white, and some are black, and white and black are not colors; the air in the room has no color, nor white paper. If every thing in the world were white, do you think it would be as beautiful as it is? Yet, in winter, when things are covered with snow, we like to see it; but is every thing white *then*? You are right, the sky is still blue, the houses and trees and animals are not altered, except where the snow lies. There are a great many colors in nature, but to-day we will talk about only three. The first I shall show you is *blue*; and see, I have several shades of blue, some light and some dark. Look at them well, and then tell me if you see any thing else in the room that is blue. You say your frock is blue; well, which of these tints is most like your frock? Yes, that is right, it is *dark* blue. What other thing do you see that is blue? Some *eyes* are blue. Well, so they are; some are dark blue and some light blue. Can you tell me any thing else that is blue? Who will find out which of these tints is like the sky? Yes; it is a pale blue. Blue is a very pleasant color to look on, and God has made many things in nature of this color, as the sky, and also the sea and lakes which reflect the color of the sky; amongst flowers, the blue-bell, violet, and iris are of this color, as are *some* stones and shells. If the sky were red instead of blue, it would be most painful to the eye. Sometimes, when a town is on fire, or when a volcano is pouring out lava and fire, the sky is red, and it is then terrible to see; but it is very pleasant to look at the blue sky or the distant sea, and think how good and great God is, who made this beautiful world for his glory and our use.

The next color I have to show you is red. It is very bright, and gives great beauty to many things. Out of all these shades of red, who will show me the lightest or palest red? Yes; that is right. What have you seen of that color? Quite right; the rose and a fair face are of this tint, but some parts of the face are of a darker red. Who will show me the color of the lips? Now who will point

to the brightest red? What have you seen of that hue? "A poppy," "a soldier's coat," "a country-woman's cloak." Yes, all these are of a bright red, and many other things we could name; but now we must look for the *darkest* red. What have you seen like that? Very good; many flowers are of this rich color, and so are many kinds of materials, such as silk, satin, cotton, stuff, and various other things. Now repeat the names of the different shades of red. I want you all to shut your eyes, and not open them until I stamp my foot. Now what color am I holding up? Some say golden color, some say yellow; well, yellow is the proper name. When the sun is setting, it casts a rich yellow light over every thing. Now try and think of something you have seen of this tint. "The sand on the sea shore," "some kind of rocks," "the corn when it is ripe," "the leaves of trees in autumn." Yes; all these are of a yellowish color, and the sand in great deserts has this tint too. Can you think of any metals of this color? Now, some fruits? Now, some flowers? Well you have named a great many things, and there are many more, such as sulphur, mustard, the pretty flowers of the laburnum tree, the furze bushes on the hills, the daffodil, and the sunflower. Now you may look at each other's dresses, and find me all the parts that are either blue, red or yellow; first find the dark shades, then the light ones. Now we have found out so many colored things, let us finish our lesson by pointing out all the things that are white, and then those that are black in the room. White is like bright daylight, and black is like dark night. When I put a piece of white paper and a piece of black cloth side by side, they both look brighter by contrast, and so also colors make each other look brighter. The sea seems of a deeper blue when we see it and the yellow shore at the same time; and if red and blue flowers are placed together, it makes them both appear very bright. If all things were of one hue, it would look very dull; but the sky, the trees, the flowers and animals are all distinct and beautiful, because each has its own shade of color.

Size.

It is of little use to make children repeat tables of long and square measure, unless we first make them practically acquainted with the unit of measure upon which they are based. The teacher should therefore begin by teaching what an inch, a foot, and a yard are; and for this purpose a measure should be kept in the school. A five-foot rod, with white figures on a black ground, is best adapted for this purpose, but a common carpenter's rule will do.

When the children are well acquainted with the divisions on the rod or rule, various objects, large and small, should be measured before them, and their dimensions repeated. The children may then be exercised in drawing lines of specified lengths on the blackboard or slates. The next step is for them to endeavor to guess at the dimensions of things placed before them, and then to correct the various guesses by measuring the objects. The sizes of things mentioned in other lessons may be made useful exercises for the judgment of measure, as also the comparative size of objects of the same class.

Specimen Lessons.

We are going to learn to-day to distinguish things by their size. Some things, you know, are small, some great. Children are not all of one size or of one height. See, I have placed four children in a row before you, will you tell me which is the tallest? How tall should you think he is? Well, we will try how high he is by the measure: count the feet and inches with me; three feet and eight inches, and he says he is six years old. Now, how tall is the least of the

four? We shall see who is right. You see she is two feet ten inches high, and she is three years old, so you see the height of children is usually in proportion to their age; they continue to grow until they are as big as men and women, and a tall man is six feet high; a woman is not so tall. But some people are large and stout, others are thin, so that one man may be really *larger* than another, though not so tall. Look at this sheet of paper, and this slate; you see that they are exactly the same length and breadth, but which is the larger? The slate. Why? This book is not so long nor so wide as the slate. Which is the larger? The book. Why? It is so much thicker. How high do you think this room is? How long? How wide? How high is the door? Could an elephant get in at the door? No; it was only made for the height and size of men. If an elephant were in the room, how high would he stand? Ten feet. Look, I now hold up this measure, so that it reaches ten feet from the ground; that is very high for an animal to be; but the giraffe is sixteen feet high; so that a man standing on the back of an elephant would only be raised as high as a giraffe! Can you think how large a whale is? He is seventy feet long! We must measure his length in the play-ground, for we have no room here. The little Barbary mouse is the smallest of four-footed beasts; he could lie in the hollow of a child's hand. How small he would look placed beside a whale!

Progressive Sizes.—A grain of sand is smaller than a gravel-stone; a gravel-stone than a pebble; a pebble than a boulder-stone; a boulder than a rock; a rock than a hill; a hill than a mountain. A mountain compared to the earth is like a boulder compared to a mountain. The earth compared to the sun in size, is like a mouse compared to an elephant.

Sir J. Herschel suggests that, in describing the solar system, the sun may be represented by a globe two feet in diameter; Mercury, by a grain of mustard-seed; Venus, by a pea; the Earth, by a pea; Mars, a rather large pin's head; Vesta, Juno, Ceres, Pallas, by grains of sand; Jupiter, a moderately sized orange; Saturn, by a small orange; Uranus, a full-sized cherry, or *small* plum; Neptune, a *large* plum.

Such things as the following may be shown to the children to illustrate progressive sizes:—

Seeds.—Poppy seed, mustard seed, sweet-pea, garden pea, bean, nut, walnut, cocoa-nut.

A spider line, a fiber of silk or cotton, a hair, a bristle, a thread, a packthread, twine, cord, rope, cable.

Thickness.—Silver paper, writing paper, parchment, card, pasteboard, mill-board, a piece of deal board; gauze, muslin, silk, linen, sheeting sail-cloth, sacking, and carpet.

Order and Position.

In accustoming children to judge of relative position, the number of objects referred to should at first be very limited; two or three will enable the teacher to illustrate most of the positions in a practical manner, which should be done frequently, or until clearly recollected. The teacher may also place several children in a line; or square, in pairs; or threes, singly; or in a group, and so on, to explain those terms.

Make the children name the position of the objects in the room, as the fireplace at one end, the door in the middle of one side, the windows at the opposite side. Let the teacher then sketch on the blackboard a plan of the room, and mark the place of the several objects; the children may copy this on their slates; change the position of light articles, as a stool or chairs, and mark their new places on the plan. Make a similar sketch of one side of the room, and mark the place of the windows, pictures, &c., and let the children

do the same on their slates. Make an outline only of the wall or floor on the blackboard, and let the children mark on it the position of secondary objects.

Teach the children the relative position of the parts of the body. Describe and illustrate the meaning of names of collections of things; as a cluster of grapes, a heap of stones, a flock of sheep, a herd of swine, a crowd of people, a group of stars, a bunch of flowers, a wood, a forest, a grove of trees, a fleet of ships, a shoal of fish, a covey of birds, a street, and a square of houses.

Scattered.—The stars appear to be scattered over the sky; corn is scattered over the ground for seed; grain is scattered in the poultry-yard for the fowls to feed on; if a shepherd leave his sheep, they no longer remain as a flock, but become scattered abroad.

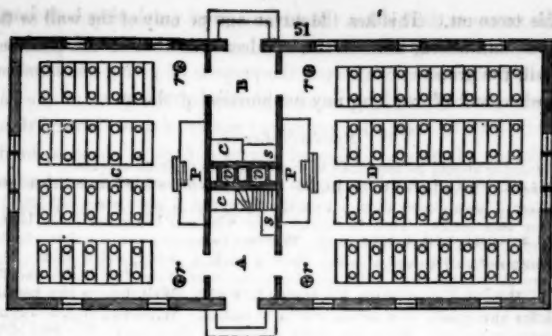
Compact.—In a hayrick, or a stack of oats, the stems and seeds are all pressed together in a compact mass. The same may be said of a stack of wood or turf; rocks are compact masses of stone; the leaves of grass in a field stand close together, but the flowers are scattered over the field; in a garden, the flowers are arranged in order. Many other terms should be illustrated in the same way.

Make the children well acquainted with the cardinal points as relates to the school-room, and try to extend this knowledge by the relative position of their respective homes. On the blackboard make dots or points in different positions at the top, bottom, right hand, and left. Make points in the position of the angles of triangles, squares, and other figures. Make dots to represent the capital letters, or to suggest the form of any other objects, and let the children describe their positions.

Show a picture to the class, and make them describe the relative position of its parts. Remove the picture, and require them to do the same from memory. Make a simple arrangement of dots or figures on the blackboard; let the children look well at it: erase it, and let some one of the class try to reproduce it, the rest trying to correct him when wrong.

Specimen Lesson.

Let the teacher sketch a small but accurate plan of the school-room on the blackboard, and mark across it two lines at right angles to each other, directed to the cardinal points. First allow the children to point out the different parts of the plan, and particularly the position they themselves occupy on it. If we go out at the front door of the school, what street do we get into? Which way does it lie? Tell me, that I may add it to the drawing. Now it is drawn, one part goes northward and the other to the south. Who lives in this street? I do. Point in the direction of your home; is it north or south from us? What must I put behind the plan of the school-room, or to the east side of it? The playground? What shape must I draw the playground? Where must I mark the swings? What street is behind the playground? Yes, — street lies north



and south. Does any one go home that way? Do you go along any other street besides? Yes, — street. Then you go to the east; see, I have drawn the two streets that form your way home; first you go so far to the south, then you turn to the east. In the morning, the sun would shine along this street, or from the east. At midday he would shine only on the north side of the street, or from the south. Show me which side of the school the sun is on in the morning? At noon? In the evening?

Of course the above must be varied to suit the locality, but its use in leading to first ideas of geography is obvious, and its gradual extension, as the ideas of the children enlarge, must be left to the teacher. When much more advanced, a large map of the town or neighborhood should be used, and each child required to trace its own way home, and any streets or roads it has been accustomed to traverse. This is a work full of interest and real instruction. Mr. Wilderspin recommends maps on a large scale made in oil cloth, on which the children could walk, and movable models to be placed on them. This is no doubt an excellent plan, but also an expensive one. It might be very useful, however, to chalk a large plan on the floor for the younger classes, as it would possess more reality to them from its size and position than a small map suspended vertically.

Number.

First ideas of number are best communicated by reference to familiar objects, and these should be of several kinds, to prevent the association of the numbers with one class of things only. Let the younger children learn to count cards, books, pence, or any objects which may be at hand. When a large number of units are required, let one child first hold up a finger, then the next, and so on as many as are wanted. Or let them hold up a finger of each hand, then two, then three, or more. One hand may be held up with the fingers spread, while the little class count one, two, three, four, five; another hand leads them to ten, another to fifteen, and as many more as they

are able to count. This has the advantage of employing both hands and eyes, and affords amusement. When once the idea of number is acquired, the arithmeticon serves the purpose of giving combinations of number, and of working any arithmetical problem.

Specimen Lesson.

The teacher should be furnished with several sets of small objects.

Teacher.—I have here five books, five pence, and five sticks; count them with me. Now, I have placed them all on the floor, and I want some little child to bring me two books. That is right. Now who can bring me three books? Quite right; now put them back again. Who can bring me a penny and two books? Now bring three sticks and a book. Now a book, a penny, and a stick. How many are they together? Who can bring me four sticks, five books, and five pence? Who will answer me a question? I will. Well, how many brothers and sisters have you? Try to tell me their names. William, Peter, and Mary. How many together? Who can count the legs of the chair? The bars of the grate? Clap your hands once, now twice, now three times.

This subject is too simple to require further detail; yet it must be taught progressively, otherwise the mind of the learner is apt to become confused. It will be perceived that it is entirely preliminary to arithmetic, and therefore it is best in this stage to keep to small numbers; and when arithmetic is commenced, still to carry on the previous process in conjunction with it, in order to give reality to the value of figures. It is particularly useful to give easy exercises in mental arithmetic, in which the notion of real objects is associated with number.

Weight.

In commencing this subject, the teacher should first call attention to such general facts as the falling of bodies towards the earth, the tendency of water to flow downwards, the difficulty of raising any heavy object up from the ground, and the sensation of weight in the human frame. Cubes or spheres of equal size, formed of lead, stone, wood, cork, or other substances, strikingly different in weight, should be examined and compared by the children. Bodies that are lighter or heavier than water may be distinguished by actual experiment. The resistance of the air to falling bodies may be easily shown by letting fall at the same instant such things as wool, cork, and lead, and watching their unequal rate of descent. The pupils should be allowed frequently to handle and compare objects of different density and size.

The next step is to make the children acquainted with the standard weights, and then to let them judge of the weights of various things, testing the accuracy of their guesses by weighing the objects before them.

When a pretty accurate knowledge of small amounts of weight is acquired, it may be extended by degrees to familiar examples of

greater quantities; but in this, as in the case of number, it is useless to attempt to expand the idea too rapidly; the process must be progressive, and, if hurried, would lose its reality.

The use of wooden bricks and other mechanical toys in the playground, greatly assists in developing the perception of weight.

Some idea of the nature of the mechanic powers should be given in connection with this subject, and this may be easily done by means of models and by simple experiments.

Specimen Lesson.

The teacher should be provided with several different substances for experiment. Wool, cork, pumice-stone, marble, wood, lead, or such objects as are within reach, may be used for illustration.

Teacher.—You see in my hand two balls of equal size. I want some one to try for me which is the lighter of the two. They are very different in weight; one is a ball of cork and the other of lead. If I let the leaden ball drop from my hand, can you tell me the direction in which it will go? It will fall down to the floor. Yes, for we never see any thing fall up to the ceiling or to one side, but always downwards, because the earth draws all the smaller things which are near it towards itself. The earth draws all you little children towards it, and when you try to climb a hill, you find that lifting your feet from the earth is hard work. Will you watch what takes place when I let the ball of lead fall from my hand? It strikes the floor and makes a loud noise. Now see if the same takes place when I drop the ball of cork. No, it makes only a faint sound. Why is this? The lead is heavy and the cork is light. I have here two more balls, one of wood and one of stone. Who will come and try their different weights? I am now going to place the four balls in this glass of water, and you must observe what happens. Two of them sink and two swim. Why do the cork and wooden balls swim? You can not tell; well, I must explain to you that wood and cork are lighter than water, and so come to the surface; but lead and stone are heavier than water, and sink down in it. A fish swims in the water, because it is about the same weight as water; but an oyster lies at the bottom of the sea, because it has a heavy shell. If things upon the earth had no weight, men and animals would not require to be strong; but the larger an animal is, the more strength it must have, to be able to move about. Could any little child here lift me from the ground? No, I am too heavy, and you are not strong enough. Quite true, but I could lift any of you, because you are all lighter than I am, and I must have strength enough to be able to move my own weight. A horse can carry a man because a horse is larger and heavier than a man, and has more strength. If a little child were to run a great way, would he not be tired? Yes, he would have to carry the weight of his own body all the way he went, and this would tire him. Look at the walls of the school-room. What are they made of? Are they not very heavy? Why do they not fall? Because they are upright or vertical. Would they stand if they were inclined? No, they would then fall; for all heavy things which are not supported will fall straight down. When we stand, we take care to stand upright, or else we should fall. When people fall, we say they lose their balance; that is, they throw more of their weight to one side than to the other, which causes them to come to the ground. Would you stand near a wall that leaned to one side? No, it would be dangerous to do so; it might fall and kill you.

Some things are very light, compared with others of the same size. Will you tell me of all the light things you know? Now name those that are heavy. Will you try to think of things that are bought and sold by weight? I have here a penny and a halfpenny; why is the penny worth more than the halfpenny? Because it is larger and heavier. Yes, metals are valued by weight.

When I put this iron weight into one scale, and this piece of wood in the other, what happens? The scale with the iron sinks down; the other rises. Why is this? Because the iron is heavier. And which is the larger? The wood. What

should you then say of the wood? It is a lighter substance than the iron. I now put a package of wool into one scale, and the piece of wood in the other. Which appears the heavier now? The wood. Which is the larger? The package of wool. So we find that wool is lighter than wood in proportion to its size. All things which we see have weight. Even the air has some weight, as you will learn in a future lesson. If it were not so, we should have no power to move or to work; without weight, the workman's hammer would not strike, the water would not turn the mill to grind the corn, or the wind move the great ships over the sea, to fetch us good things from distant countries. Even the rain could not fall from the sky to make things grow, if it had not some weight; so that when we find it difficult and laborious to move about, or carry heavy things, we should remember how useful and necessary it is for things to have weight, and how God, in his wisdom and goodness, made every thing just as heavy as it should be. He made the air light for us to breathe and to move about in, the heavy stones to build our houses, light wool and cotton to make us warm clothes, and heavy metals to make our tools. Let us always think that He has made every thing in the way it should be.

Sound.

First lessons on this subject should not be of a musical character, but chiefly confined to the discrimination of ordinary sounds. The attention of the pupils may be directed to the varieties of the human voice in children and grown persons, in men and women, and in different individuals; also to the different modes of utterance, as speaking, calling, singing, whispering, and so on. Sounds may be produced experimentally, as by the ringing of bells, the noise made by striking various bodies, and by other means; and these should be divided into sharp, grave, loud, faint, or as many varieties as can be exhibited.

The next step is to require the pupils to observe sounds for themselves. Children, when first called upon to mention the sounds they are acquainted with, will not, perhaps, be able to remember more than ten or twelve; but we have known many who, in a week or two after their attention had been directed to the subject, could enumerate upwards of one hundred. It is useful to lead them to classify their observations, as into the voices of beasts, birds, sounds produced by insects, by the footfall of men and animals, by the motion of carriages and machinery, by workmen in performing various mechanical operations, sounds produced by the motion of water, air, and by other natural causes. Sounds may also be divided into kinds, as roaring, rumbling, crashing, crackling, murmuring, rolling, tinkling, echoing, and so on; the intention of such exercises being to connect words with definite ideas, and to cultivate habits of correct observation.

Directions for a Lesson on Sound.

Strike in succession two bells, one much sharper in tone than the other, and call attention to the different pitch in their sounds. Let the children try to produce high and low tones with the voice. Produce sudden sharp noises, as by striking hard substances, by the breaking of wood, or by the children calling out in a high key and stopping suddenly; then sounds of an opposite character, as by

the rapid movement of the feet of many children, as they sit in the gallery, by rolling any heavy object on the floor, or by the lower tones of the voice. Call attention to such slight sounds as those produced by the rubbing or striking of various substances, and then let the children listen with closed eyes, and try to determine the causes which produce them. Place several children out of sight and let them speak in succession, while the class try to discriminate their voices. Direct attention to the feelings expressed by the human voice in exclamations of sorrow, joy, pain, terror, mirth, and other emotions, and to the voices of animals expressive of their feelings and wants.

Explain the difference between inarticulate sounds, such as laughing, sobbing, muttering, screaming; and articulate sounds, as speaking and singing.

The kind and amount of instruction given in each lesson must, of course, depend entirely upon the age and advancement of the pupils; the subject may as easily be treated in a way to suit a child of three as of ten years of age, and such preliminary lessons are an excellent preparation for correctness of ear in speaking and singing. Indeed, when developed, the imitative power of children is so great that no refinement of tone or inflections of voice are difficult to them; and hence the importance of a pure pronunciation and correct manner of speaking in the teacher, as defects in this respect are but too readily imitated, and bad habits formed.

Developing Lessons on Objects.

When, by the preceding series of lessons, some idea of the general properties of things has been imparted, the observation of particular objects should be commenced; but we must always keep clearly in view the *principle* on which this kind of lesson rests, viz., that the children should discover for themselves the qualities of the object under examination, the teacher merely supplying the words needed to express them; for to *tell* the pupil that such and such qualities exist in it, which we are not able to demonstrate, will not develop his faculties. Hence it follows, that attention should be called only to the more palpable and striking characteristics, and that, if possible, the same quality should be traced through several examples, and even contrasted with its opposite, to render it more evident.

Suppose, for instance, two such substances as glass and india-rubber were chosen for a lesson. The most striking properties of the glass are that it is transparent, hard, brittle, sonorous, rigid, reflective. These are rendered more evident by contrasting them with the qualities of the india-rubber, which is opaque, soft, tough, not sonorous, flexible, dull. The idea of transparency may be rendered more general by reference to water, air, mica, crystals, and other examples, and also by extending the idea of the opposite property of opacity, and so on with the remaining qualities. We will now proceed to an example of this kind of teaching.

Lesson on Coal and Chalk.

Teacher.—Tell me what you observe in the object I now show you. *Children.*—It is white. Is it quite white? Yes, quite white. What else have you seen of the same kind of white? Linen, paper, snow. Tell me the color of this object. It is black. Is it black like this piece of cloth? No, the coal is bright and the cloth is not. But are not both black? Yes. Is the chalk bright and

smooth? Feel it and try. No, it is quite rough and dull. Now feel the piece of coal. Is it smooth? Yes, in some parts. Does it shine or reflect the light? Yes. Repeat now with me, coal is black and reflects the light; chalk is white and dull. I will make a line on the blackboard with the chalk. How is it that the chalk makes a white mark? Some of it rubs off. Yes, it is friable; that is, it will rub or crumble away. Now we will try to make the coal mark. Has it made any mark? No. I will tell you the reason: the wood is softer than the coal, and so it will not mark. Weigh the two substances in your hands, and tell me are they heavy or light. Try which feels the harder. Listen while I strike each of them, and tell me what you hear. The coal gives a sharper sound than the chalk. Yes, because it is harder; for you will find that soft bodies give a dull, heavy sound, and hard bodies a sharp sound.

I am going to hold the piece of coal in the flame of this candle; will you watch what takes place? The coal burns and gives out smoke. Say, coal burns or is *combustible*. Now, watch if the chalk burns when in the flame. No, it neither burns nor smokes. Say, chalk will not burn; it is *incombustible*. It is changed, indeed, by the heat, but you can not see the change now.

When we wish to break coal into convenient pieces, how do we do it? With a hammer. Can chalk be broken in the same way? Let us try. Yes, both coal and chalk can be broken by a blow, and are therefore called *brittle*. Do you think that coal or chalk is made by men? No; I will tell you: they are both dug out of the ground, and were formed by the power of God, and such things are called natural, while things made by man are called artificial. Is either of these substances transparent? No, most rocks and other things dug out of the earth are *opaque*, that is, no light will shine through them, nor can we see through them. Such things as are neither animal nor vegetable are called mineral, and these are mineral substances. Now let us repeat what we have learned about them: Both coal and chalk are natural, mineral, opaque, brittle, heavy. Coal is also combustible, black, smooth, shining, hard. Chalk is white, friable soft, and will not burn. You know that they are both useful. Will you try to name some of the uses of coal? To warm our houses, to cook with, to drive steam engines, to make gas, and so on. Now some of the uses of chalk? To write and draw with, to make whitewash, to make lime, to manure land. Now you have examined these two substances and know some of their qualities, I will tell you something more about them. Coal is generally found deep down in the earth, and men must dig down to get it. Some of you may have seen a well out of which water is raised, and the entrance to a coal mine is like a very deep well. Up this well or shaft the coal is drawn by a rope or chain, moved by a steam engine, and when the workmen wish to go down into the mine, they get into a box covered with an iron roof, and are let down. If you look on the map of England for the counties of Northumberland and Durham, it is there, on both sides of the river Tyne, that so many coal mines are worked; but there are many other places in England, Ireland, and Scotland, where coal is found.

If you wish to see a coal mine, you would first have to be let down the shaft very far; and then, when you arrived at the bottom, you would find many passages leading in different directions, along which little cars laden with coal are drawn by horses or pushed along by boys; and, in some places you would see the miners digging the coal out of the earth with pickaxe and spade, each with a lantern to light him, covered with wire-gauze; for a kind of gas like that which burns in the street lamps comes out of the coal, and if the flame of a candle or lamp touches it, it takes fire and explodes with a dreadful noise, often killing the poor miners who may be near; but this gas will not pass through the small holes in the wire-gauze, and so can not take fire from the miner's light.

Chalk is dug out of the ground, but it is not so deep in the earth as coal, and is often close to the surface. The men who dig it out are called chalk-cutters, and a great quantity of chalk is used to put on land to make wheat and other crops grow. When chalk is burned, it changes into quick-lime, and is then used for making mortar for building. Sometimes chalk is given to calves to lick, or put into the water which cattle drink. Although chalk is now found in the sides of hills, it was once underneath the sea; for sea-shells are found mixed with it, which must have got in it when it was in a soft state at the bottom of the sea, just as we find shells mixed with the soft sand on the sea-shore now.

Sponge and Bread.

Let us compare these two things, and try to find out their properties. First look at the sponge, and tell me its form; is it of a regular or irregular shape? What is its color? Feel it, and tell me what sensation it gives to your hand. It is rough. Look at it, and tell me if the surface is uniform or every where the same. No, it is full of holes. Things which are so are called *porous*. Try if you can press it into a different shape. Does it remain in the form you pressed it into? No, it springs back to the shape it was in at first. Yes, it is *elastic*. Dip it into this glass of water, and tell me what you observe. It takes up some of the water. Will you try, children, to remember what this quality is called? *Absorbent*. Take the sponge from the water and squeeze it dry. Is any of it gone? No, it is the same as before. That is because sponge will not melt or dissolve in water.

Now let us examine the bread. What is its color? Its form? Is it like the sponge in any thing? Yes, it has holes or pores. Can you press it into a new shape? Yes. Does it spring back to its former shape? No; things which can be pressed or molded into new shapes in this way are said to be *pliant*. If you rub the bread, what happens? It crumbles away. Will the sponge crumble when rubbed? No, it is *tough* and *elastic*. Try if the bread will absorb water. Yes; but you see the water changes the bread into a sort of pulp, so that it must be miscible in water. Try which is the lighter substance, bread or sponge? Sponge. Now tell me what you know about bread. It can be eaten. It is made from flour, and flour from wheat. Then what kind of substance must bread be? Vegetable. Show me the hardest part of the bread? What made the crust hard? When you toast bread, does the surface become hard or soft? Does it change color? What part of the bread is most like the sponge in color? What is sponge used for? Why is it useful for washing and cleaning? Because it is *soft, flexible, elastic, and porous*. Sponge is not a vegetable, like bread, but part of an animal which lives at the bottom of the sea, and men dive down to get it from the rocks on which it lives. Could you eat sponge? No, the qualities which make it useful for washing render it unfit for food. God has given to each thing some purpose to fulfill; and he has made bread wholesome and nutritious to eat, and sponge useful for cleanliness and comfort. Let us think now of all the properties we have found in these two things. They are both light, but the sponge is the lighter. Both are full of holes or pores. Both suck up or absorb water. Both can be squeezed into new shapes; but the bread remains in the shape into which it is put, while the sponge springs back to its first form. When soaked in water, the bread is changed; the sponge is not. The bread is easily broken in crumbs; the sponge is not, it is *tough*. Bread is yellowish white; sponge is brown. Bread is vegetable; sponge is animal. Bread is edible and nutritious; sponge is not. Both are rough to the touch, and of a dull surface. One is in a natural form, the other artificially prepared. If we were to try, we would find out a great many more properties in these simple things; but let us admire the wisdom and power of God, who made all things in so wonderful a manner. The most skillful and learned man could never make a piece of sponge, nor give it life as this once had, or cause a single grain of wheat to grow.

Lesson on a Penny.

What is this? A penny. What is it made of? Copper. What color is it? A reddish brown. Tell me its shape. Round or circular? Have you seen any thing else circular? A ring. Is a penny like a ring? Why not? A ring has the middle part cut away; a penny is solid. How many surfaces has a penny? Count and see. Two flat round sides, and a circular curved part. What geometrical solid is it like then? A cylinder. What kind of cylinder? A very short one. How many edges has the penny? Two circular edges. Are the sides quite flat? No, the edges are raised, and there are figures in the middle. What do you see on this side? The Queen's likeness. And on the other side? A figure of Britannia. Are these figures raised or sunk on the surface? Raised. Yes, they are said to be in relief. Do you know how these figures were formed on the penny? I will tell you; they were stamped by dies of very hard steel, on the surface of the copper, which is much softer than steel. To explain this to you,

I will melt some of this sealing wax, and stamp an impression of the penny on it. Now you see I have made a copy of one side on the wax. Is it exactly the same? No; the figures are sunk on the wax, and raised on the penny. Why did the wax receive an impression? Because it was softer than the penny. Tell me what sound you hear when I strike the penny? A ringing sound. That is because it was pressed and made hard by the steel dies. If it were softened again, it would not sound the same; and bad money has generally a different sound from good, either from not having been struck in a die, or from not being made of the same metal. Now we will talk about the penny as *money*. You all know the *use* of a penny. Many of you, no doubt, have been intrusted with money by your mothers, to buy things with. Did you ever think why people are so ready to give their goods for money? Because they can spend the money again. Yes, but what makes a penny of any value? Because it is made of copper. You are quite right; copper is very valuable, and also very useful; it serves to cover the bottoms of ships, to make kettles and saucepans, and many other things. It is made into wire, and also, when mixed with zinc, it forms brass. But how do you think copper is first obtained? You know how many things can be got without much trouble. Common stones, and earth, and wild plants can be easily picked up; but did you ever see copper lying about the ground? Oh no! if it were so common as that, it would not do to make money with, although it would be just as useful for other things. However, much has to be done before the copper to make a penny is to be had. First, men have to search out the veins of ore in the rocks, and then to dig mines down to them, and rend the hard rock with gunpowder, and break it with hammers, and then pick out the bits of ore, which must be heated and pounded fine, so as to separate all the stony or earthy part, and then it has to be melted by great heat, and refined or made pure. All this costs much labor and skill, and employs many different men, who must be paid for their work; so that by the time it is made into pure copper, it is very valuable. But with all this trouble, only a certain quantity of this metal can be got; so that it is rather scarce, and this makes it dearer, and the better suited to make money; for you know that a few pennies, which can be held in the hand, are worth as much as a loaf, or a good quantity of potatoes. If I buy a penny loaf, I give a penny for the bread, because the corn that made the bread took much trouble to cultivate; then the miller must be paid for grinding it, and the baker for baking it; and as the loaf is valuable and useful for food, so the penny is valuable, because copper is useful for many things. Now suppose pennies were made of iron or lead, would they be as convenient? No; for to be of the same value they would require to be much larger, and would be too heavy to carry about. When much money has to be paid, we do not use copper, but silver or gold, which being worth more take up much less space, and are not so heavy in proportion. Shall I tell you a little story before we close our lesson? There was a very clever painter, who lived in Italy a long time ago. He spent much time and thought in painting a picture, and when he went to receive the money which was the price of the work, it was paid to him all in copper coin. The weight was very great, and he had a long way to go home; he was not strong, and the fatigue of carrying so great a weight along the hot road so injured his health as to cause his death. Now, if he had been paid in gold coin, it would have given him no trouble to carry home; for a very small weight of gold would have been as valuable as his great bag of copper.

Moral Lessons.—God.

A few years ago, not one of you little children was alive. Where were you then? Not in any place. God had not made you. Many children come to life every day, and many people die every day. But God was always alive! The world we live in was made by his word; but He lived before all worlds, before all men and angels, and He will continue to live forever. Is God like as we are? No, for *we* are all sinful, and He is perfectly good and pure. We know very little; He knows every thing: we can only see and hear a little way around us; He can see and hear ever so far. We can only be in one place at a time; God is in every place at the same time. He is here in this room now, and knows what we are all thinking about, and all that we do and say. He could destroy us all in a moment. Will he do so? No; for He is very kind, and loves us. He has told us how to become good, that we may go to Him, and be happy forever. He

sent us his Son Jesus Christ into the world to save us from our sins, and to show us what we ought to do that we may become his children. Although God is present every where, yet Heaven is called his dwelling-place, for it is there that He is pleased to show his glory most; there every thing is good, and pure, and holy; there saints and angels dwell, and those who serve God on earth will go there at last, to live forever in perfect happiness. Can we see God? No; not with our eyes; but we can think of Him in our minds when we see his wonderful works. If one of you saw a clock, would you think that it made itself? Would not you say, some man must have made it? If the clock were going, you would know that some one must have wound it up. A clock is a very curious work; the hands move, and the bell rings to tell the time; and many other things men make are very ingenious, but they are very different from the works of God. If one of you were to lose an arm, could any man make a new arm grow for you? No; for our bodies are the work of God. If you pluck a rose in the garden, can you join it again to the tree? No; for the rose-tree is God's work.

The great globe on which we live is always moving very swiftly on; *who* could move or stop so very large a thing? The bright sun goes on always shining; *who* could make so great a light? All the men and animals on the earth are fed every day; *who* finds so vast a quantity of food as to give all creatures enough? How many things we have to make us happy; from whom do these blessings come? From God. What can we give God in return? Nothing, for *all things* are His; but we should love Him for all his goodness to us, and trust in Him, and give Him thanks and praise for all we have. Let us think what God has done. He made all things. He supports and preserves all things. All his works are full of wonders. He sent his Son to redeem us from sin and death.

Let us think how great God is. He is all-wise, all-powerful. He is in every place; and He is eternal. He had no beginning, and he will have no end.

What comes from God? All life comes from him, and he is the source of love and truth, knowledge and power, justice and mercy. Without him, we could not live a moment. Oh! let us love and serve him as long as we live.

Creation.

As I have told you something about God, we will now talk about Creation. Do you know what that word means? Well, I will try to tell you, but you must listen very attentively, and *think*, as it is rather difficult for little children to understand at first. I dare say you often sit upon a chair or stool when you are at home; and when you eat your dinner you sit at a *table* and eat off a *plate* with a spoon, or knife and fork; at night you sleep upon a *bed*, and in the morning when you get up, you put on some *clothes* to keep you *warm*. Now, all these things must have been made by *somebody* and out of *something*. The chair and stool and table were made by a *carpenter*, and of *wood*. The plate by a *potter*, and of *clay*. The knife and fork by a *cutler*, and of *metal*. You see all these things are made by man, but did man make the wood, the clay, or the metal? Oh no! they were all created or produced by the power of God. When you look at this beautiful world, and all the things in it which are given us for our use and pleasure, do you not feel that some great Being whom we can not see must have made all? Yes, dear children, you know it was Almighty God. He called into existence this wonderful world on which we *live*, the *sun* and *moon* and *stars*, which altogether we call Creation or the Universe. I will now begin to tell you the way in which God did this. Do you think He had need of any thing to make the world with? No; he only *spoke* and it was done! Can any one else make things by speaking? No. You are right; it is only Almighty God who can do such a wonderful thing. We are told that at first "the earth was without form and void, and darkness was upon the face of the deep;" that means, that the earth was without any agreeable shape or order, and that it was empty. There were no nice trees or plants to furnish it, nor beautiful lakes and mountains and valleys, nor animals to inhabit it. First of all, God made the light. He said, "Let light be, and there was *light*." Then he made the air and sky, or firmament. Can you see the air? No; but you can *feel* it. Do you know where the air is? It is every where; it covers the whole *earth*. Sometimes water comes down from the clouds; what do we call it? *Rain*. Now, God said, "Let the waters that are under the heavens be gathered together into one

place, and let the dry land appear." What did God call the dry land? *Earth*. What did he call the waters? *Seas*. But there was as yet nothing on the earth or in the waters; so God spoke, and things grew out of the ground; trees, with their beautiful leaves and fruit; nice vegetables, and corn, and soft green grass, and lovely flowers, all sprang up at his command. How thankful we ought to be when we remember that God made all these things for us! Next, God placed two great lights in the sky, the greater light to rule the day, and the lesser light to rule the night, and covered the sky with stars. What did he call the great light? The *Sun*. And what the lesser light? The *Moon*. None of these things which God made were alive. At last he made some living things. He filled the water with *fishes*, some very large, and some of them very small. Then He made the beautiful birds to live in the trees, and some to swim on the water, and He made all the creeping things, and the beasts of the earth according to their kinds, and cattle, and every thing that creepeth on the earth after its kind; and last of all He made man, and gave him dominion over the fishes of the sea, and the fowls of the air, and the *beasts*, and the whole earth; and God saw all the things that he had made, and they were very good.

Now, let us try to consider what was created on each day. The first day God made the *light*. On the second day, the *air* or *firmament*. The third day He formed the *seas* and the *dry land*, and made the *grass*, *herbs*, and *trees*. On the fourth day God made the *sun* and *moon* and *stars*. On the fifth day, the *fishes* and *birds*; and on the sixth day He made the insects, reptiles and *beasts*, and also *men*.*

Life.

Let us think of God's goodness in granting life to all his creatures. When we awake in the morning, and feel that we are *alive*, how pleasant it is to see the bright daylight, and to breathe the fresh morning air! Then little children sit down to their morning meal, and hear their kind parent's voices; and when hunger and thirst are satisfied, they prepare to go to school, there to learn many good and useful things, and to spend an hour in pleasant play; tired at last, they go home to meet their dear parents once more, and then, when the sun has set and darkness covers the sky, God sends sleep to rest our bodies and to give us strength for a new day. How thankful we should be for these great blessings!

But are there no people living except those we have seen? Oh yes. Thousands of thousands of men and women and little children are now enjoying life in many other countries. Some are black, some are white like ourselves, but God supports the life of every one. And are *men* the only living things? No; for the *beasts* in the field live, and so do birds and fishes, and the little insects. Who could count all the living things God has made? No one could number them, they are so many. Could a *man* cause any thing to live? No; God only could do that. Men can make many wonderful things, such as a watch, to tell the time; in it the wheels keep moving, with a ticking sound; but then, if it is not wound up it will stop; it is not *alive*. What is it in our breasts which beats night and day? It is the heart, which keeps on moving as long as we live. Does any one touch it to make it beat? No; it is alive. We can not stop it or make it move. We may take the heart life-clock; it will go on beating until we die.

How many wonderful parts the body has, in order to support life. The head is at the top; it turns about on the neck. Inside the head is the *brain*, where we feel; in front is the face, with eyes to see, nose to smell, mouth to taste and speak with. At the sides of the head are the ears to hear with. The head seems to govern the body. Then, inside the chest, besides the heart are the lungs, by which we breathe air to keep our blood pure; and below is the stomach, to digest the food we eat, and change it into nourishment for the blood, which the heart sends to all parts of our frame. Then we have hands and arms to work and get food, and to do many other things. Our feet and legs carry us about from place to place, just as we wish, which is a most useful thing. But we must now think of another wonderful part of life; I mean that it is always changing. You are little children now, soon you will grow to be big boys and girls; then your bodies will be larger, and your minds will know much more. At last you will become men and women, and then you will not grow any more, but will change gradually

* The words in italics are to be supplied by the children.

to be old people ; your strength and your senses will decay, and at last you will die, and new children will grow up to take your places in the world ; for this is how God made all living things, both men and animals and plants. When a seed falls into the ground, it swells and grows : at first a little green shoot appears, then, after many years perhaps, it becomes a large tree, and bears flowers and fruit and seed. At last this tree grows old and dies. Will God ever die ? Oh no ! He is a spirit, and spirits do not die, they live forever. *Our spirits* will not die, only our *bodies*. The angels do not die ; but all things which we see on the earth will die ; they come to life, and grow, and live, and then die. Some things never had any life ; stones and metals never were alive ; they are called minerals. But living things could not do without those which have no life. What do we want that has no life ? We want air, to breathe, and water to drink ; without these we should not live a day, and so God in his love has given us both in abundance. The air is every where over the earth ; we live in it, and breathe it ; so do plants and animals ; but there is enough for the use of all. And how plentiful is water ! it drops in the rain and dew, it flows in rivers and streams, and the great ocean is full of it. The minerals of the earth serve for the plants to grow in, and the plants serve to feed men and animals ; so you see all things help to support life, and all life comes from God. We should thank and praise Him every day for all his blessings.

The Mind.

Some of you, little children, may have observed how many wonderful things animals can do. You may have seen a bird's nest, and noticed how neatly and curiously it is made ; or you may have looked at a little spider weaving his web. There is one kind of bird that sews leaves together to form its nest, and for this reason it is called the Tailor bird ; and you have all heard of the Beaver, that cuts down trees and builds himself a house and a wall on the river side. But animals do all these wonderful works without being taught ; for God has given to them what is called instinct, by which they know just what to do. To the beaver He has given a building instinct, to the spider a weaving instinct, and so on. Yet animals can learn to do some things. Dogs are trained to mind sheep, and horses to draw carriages. Some birds can be taught to sing tunes, or even to say a few words ; but no animal can learn like a child ; for the same child may be trained to be either a weaver, a tailor, or a builder, or to any other trade. Why is this ? You know that many animals have five senses like ourselves ; but can any animal learn to speak like a child ? Oh no ! for God has given the power of speech to man only. When God created the animals, he brought them to Adam for him to give each a name ; and you know that we have names for every thing we see or know of, and for whatever we do. When we hear the name of a thing, we think of the thing itself ; and when we want to tell what we have seen, we use words only. With words we can tell whatever we feel, or think, or know ; and by listening to what others say, we can learn from them. Words stand for things. We think, speak, read, and write in words. Whether we think, speak, or write the word *man*, it always stands for the same thing. We learn to know things through our senses : this is called *perceiving*. When we once know any thing, we can think of it again : this is called *remembering*. How do you know the difference between one object and another ? By *comparing* them. Can you tell me which is the taller of these two children, the boy or the girl ? *The boy*. Which is the elder ? *The boy*. How do you know ? Because he is much bigger. Yes ; you have observed that children increase in size as they get older, and so you *judged* of their ages by their difference of *size*. In this way we can judge of the differences of all things, and by reasoning on their qualities we learn to know their uses. We can judge of *actions* as well as of *things*. We all know that to get our food and clothes, some one must work. Little children can not work, but their parents labor for them. Now, when we see people who are idle all day, we say that they do wrong, and that they soon will come to want. Why do we say this ? Because we know that much labor is needed to prepare food and clothing for our use ; and if men are idle, others will not give them what they want. It is by our *minds*, then, that we are able to tell right from wrong. And God requires us to think on what we do, and to obey his laws. Does He require the animals to reason on what they do ? No ; for He has not given them speech and reason like man.

Let us think of another power in our minds. We said that by means of our senses we can perceive whatever is around us; but we can sometimes think of things we never saw: this is called *imagining*. Let us try to imagine a palm-tree. I show you this picture to help you to imagine it. Now you must think of a tall straight tree, growing upright, with no branches at the sides, and only one great bunch of leaves at the top. Now look again at the picture; fancy the stem as tall as an elm-tree; the leaves at the top each as long as this room is wide, and a great bunch of fruit in the middle of the leaves. Have you any idea of the palm-tree now? How did you get it? Yes; from the picture, and by what you know of other trees, and by my description. Let us now see how many mental powers we have found out. We can perceive; we use signs or language; remember; compare; judge; imagine. What a wonderful thing is the mind! It is said that God at first made man in his own image; that is, He gave him a thinking spirit or soul, and made him pure and good. Two things our minds can learn about God; how well he has made all things, and how merciful he has been to man, who sinned against him. When we think of these things, it should make us love him more and more every day.

Conscience.

Almighty God has made the great world and all living things, down to the smallest insect, on a regular plan; even the water and air and light obey his laws, and he has put an instinct in every animal, by which it does that which is good and right for it to do. Have we the same instinct in us? No, but we have what is much better, a mind which can judge between right and wrong. How do we know what is right? God has given us a law which tells us. Is this law good? Yes; for God made it, and He does all things well. Those who keep this law are happy, while those who break it are unhappy.

The feeling which we have of what is right or wrong in our actions is called *conscience*; and although no one might see us when doing a wrong act, conscience would tell us we were not doing as we ought. We should always listen to conscience. We should always do what we know to be right, not what we see others do. Children often try to excuse themselves when in fault, by saying that they only followed the example of some of their companions: is this right? No; for we should not join in any act without first thinking if it be right to do so. Do you know what you *ought* to do? The great thing is to love and serve God; the next, to love your fellow-creatures, and do them all the good you can. Do you know what it is wrong and wicked to do? Is it right to hate any one, or to try to injure him? Is it right to give way to anger, greediness, and other passions? No; for we should try to govern our minds and obey God's law, and not our own bad feelings. Ought we to say what is not true? No; for God is not pleased with those who lie. May we be rude or disobedient to our parents? No; we are commanded to obey them in all things. Can children serve the Lord? Yes; Joseph, the prophet Samuel, king Josiah, Timothy, and many other holy men, sought the Lord while they were yet children; and he led them all through their lives in the right way; and we must try to learn how to be good. We can not do this all at once. Many little children who are naughty when they first come to school, learn by degrees to do what is right. Will you strive to improve? You must try very much, and not be discouraged; endeavor always to find out which is the right way to act. I will tell you about a poor American Indian who was among his white neighbors. He asked a white man to give him a little tobacco. The man had some in his pocket, which he gave him. When the Indian came to use the tobacco, he found a piece of silver money in it; so, the next day he came back and brought it to the owner. When asked why he did not keep the money, he pointed to his breast and said, "I got a good man and a bad man here: the good man say, 'it is not yours, take it back.' Bad man say, 'he gave it you; it is yours.' Good man say, 'it is not right; he gave you tobacco, not money.' Bad man say, 'never mind; you got it, go and spend it.' So, I don't know what to do, and I try to go to sleep; but good man and bad man keep talking all night, and trouble me; so I bring the money back, and feel good now." What did the Indian mean by the good man in his breast, who said, take back the money? He meant his conscience, which told him right from wrong. What was the bad man that told him to keep the money? This was the feeling of selfish greediness, which would have had him buy something for his own pleasure with the money.

Not long ago I saw a little girl come into school one morning; she put her own bread away, and then took some out of another child's bag. As soon as she had got it in her hand she hid it under her cloak, and looked timidly around to see if any one was near. I went to her, and asked her where she got the bread then in her hand. She said, from her own bag. Was this true? No; for I saw her take it from another bag which was now empty. What made her hide the bread, and look round to see if any one noticed what she had done? It was conscience. She knew that she had done wrong: in her own bag she had plenty of bread, but she was greedy and wished for more. This was a sad fault, it led her to steal; and then, to hide her theft from me, she spoke what was false. See how one fault leads to another: covetousness to theft, and theft to lying! But I am glad to say, she soon came to see how badly she had acted, and to be very sorry for it. Perhaps she did not think much of what she was doing, but only followed the bad feeling of greediness; yet she knew that she was doing wrong, or why did she try to hide the bread, and then tell an untruth to conceal her fault? Let us always think of what we are doing, and try to act rightly. Even the poor Indian who had not been taught the true way, wished to be honest; and how much more should we who have the law of God.

Hope.

What a delightful feeling is hope! I think we may call it a bright feeling. You may have seen the farmer laboring to plow and sow his fields. Why does he throw the seed into the ground? Is it not that he *hopes* to see it grow up and bear fruit? He waits long, and is not impatient; for he says to himself, "When harvest time comes, I shall be rewarded for all my labor and cost; I will wait and *hope* until then." When a merchant sends out a ship laden with goods over the ocean to a far country, he says, "My goods cost me much, but when my ship comes back, I *hope* she will bring me many more valuable things in return."

If a mother were parting from her son who was going on a long voyage, she would say, "It is, indeed, sad to part, but I will live in *hope* that my child will return, and then what joy I shall feel to meet him again!" Do you, children, ever feel *hope*? When you have a lesson given you to learn, you may perhaps say, "It is rather hard, but never mind, I think I can learn it." If you thought you could not learn it, you would have no *hope*, and be very sad.

When you bid your mothers good-by in the morning on coming to school, you do it cheerfully, because you say, "In the evening we shall meet our dear mothers again." If you had not this feeling, how miserable you would be.

You all wish to walk abroad and play in the fresh air; think how you would feel when shut up in a prison, with strong stone walls and iron-bound doors, so that you could not get out, and only saw the light through one small grated window. Yet, if you expected to be let out in a month, a year, or any fixed time, you would still live in *hope*. Perhaps you might say, "It is very hard to be so long in this dark, cold cell; but, oh! how happy I shall be when the day comes, to go out and breathe the fresh air again." Think, then, of those poor prisoners who have been shut in for life, with no hope of liberty. Oh! how sad their fate must have been! no change, no hope in this world! Some have given way to despair, and even gone mad in their dungeons. Others have trusted in God, and borne all patiently, placing their hope on a better world. Think, then, my dear children, what a blessing hope is; how many happy thoughts it gives us; how cheerful we are, and how much we can do, if we have a hopeful spirit. With this feeling our faces are bright, our hearts are light, and our hands are active and busy; so let us always try to *hope*, and never despond or despair.

The foregoing are merely given to show how these subjects should be introduced to suit the capacities of little children. It is a good plan for teachers, when they intend giving a lesson of this kind, to draw out beforehand an outline of the manner in which they mean to treat the subject. We give an example or two.

Love.

In treating this subject, the first leading idea to be brought out is love to God

for all his boundless goodness to us, and for his infinite perfections. Next, love to parents as a duty commanded, as a return for their unbought care and affection, and for constant benefits. The ties of relationship should then be dwelt upon; the duty of brotherly love and of general union in families, with simple anecdotes illustrative of the happiness and beauty of family union. Then duties of humanity in general, and of kindness and hospitality to strangers; with such narratives as Abraham entertaining the angels; the parable of the merciful Samaritan; the story of Mungo Park entertained by the poor African women; the divine command to love our enemies, and to overcome evil with good, illustrated by the example of the Saviour praying for his murderers.

The foregoing principles may be contrasted with examples of the dreadful effects of hatred, and of the misery of quarreling and anger. Inculcate, also, kindness to animals, and frequently show their uses both to man and in the scheme of creation. Also show the cruelty and cowardice of giving pain to weak and helpless things, which are placed by Divine Providence under our protection. Try to cultivate a love for natural objects generally; flowers, trees, and so forth. As children come to perceive and admire the beauty and order of creation, a feeling of love extends itself to every natural object, as exhibiting the power and goodness of God.

Fear.

Show the evil and folly of indulging in unnecessary alarm at common dangers or mere appearances. Try to strengthen the minds of children to meet dangers, by directing them how they should act in such ordinary occurrences as may excite alarm. Explain what is meant by *moral* courage, and show how *fear* is generally accompanied by guilt, and that innocence gives the best feeling of security. Try to induce a constant dependence on divine protection. Explain that the feeling of fear or insecurity in darkness arises from physical causes, such as the impossibility of seeing where to step, and show how the blind overcome this feeling.

Additional Subjects for Moral Lessons.

- On the continual support of all things by Divine Power.
- Time.—Our experience and knowledge of the *past*, the duties of the *present*, and our ignorance of the *future*.
- The design and wisdom shown in the works of creation.
- The starry heavens; the idea of distant worlds.
- The stages of life, and their mutual relation and duties: infancy; youth; maturity; age.
- On the various ranks and occupations of men, and of their mutual usefulness and support.
- Love to God—to parents and relations—to companions—strangers and enemies.
- Fear.—Physical and moral.
- Truth and justice in our words and actions.
- Falsehood, dissimulation, and evil speaking.
- Obedience.—Explain the difference between *willing* obedience and *forced* obedience.
- Contentment, and submission to unavoidable evils.
- Patience and perseverance under difficulties.
- Gentleness both in *word* and *action*.
- Selfishness contrasted with self-denial for the good of others.
- Industry and diligence.
- Self-control—in sudden alarm or cases of illness—of provocation.
- Generosity—covetousness.
- Self-conceit, and a spirit of contradiction.
- Effects of envy—anger and hatred.
- Cruelty to animals.
- Cleanliness.
- The tendency of one fault to give rise to another.
- Respect due to parents—to age—to good and great characters—to office and to rank.
- The evil of ridicule. Forbearance and sympathy due to misfortune and deformity.
- Punctuality. Destructiveness. Order. Honesty.
- Loyalty and love of country.

XII. EARLY ILLUSTRATED SCHOOL BOOKS.

WE shall avail ourselves of recent applications of Photography to transferring engravings to electrotypes, ready to be used in ordinary type printing, to give our readers exact impressions from the illustrations of some of the earliest school books. We have before us a little book of about the size of the "*New England Primer Improved*," with the following title,

"A GUIDE FOR THE CHILD AND YOUTH, IN TWO PARTS. *The first for Children*: containing plain and pleasant directions to read ENGLISH; with Prayers, Graces, and Instructions, fitted for the capacity. *The second for Youth*: Teaching to write, Cast Accounts, and Read more perfectly; with several other Varieties, both pleasant and profitable. By T. H., M. A., Teacher of a private school. London: 1762."

In his Address "to the Parents, or others," Mr. T. H., says: "When I consider how Ignorance of late had prevailed amongst the Vulgar, and how those who never learned anything themselves; will yet pretend to teach others; I was almost at a loss whether I should proceed in this small but useful Tract. But since a blessed Sunshine hath appeared in our Horizon, I resolved to publish it for the use and Benefit of Children, and those of riper years." This is followed by "*The Capital Roman Letters*;" "*The Small Roman Letters*;" "*The Vowels*;" "*The Consonants*;" "*Double Letters*;" "*The Great Italic Letters*;" "*The Small Italic*;" "*Syllables, ab, eb, ib, ob, ub, and ba, be, bi, bo, bu, by, &c.*;" which is followed by a page of "*The Dutiful Child's Promises*," viz.:—

"I will fear God and honour my King.
I will honour my Father and Mother.
I will obey my Superiors.
I will submit to my Elders.
I will love my Friends.
I will hate no Man.
I will forgive my Enemies, and pray to God for them."

Then follows the illustrated Alphabet for "*The Child's Guide*," which is again introduced as "*The Youth's Guide*," with extracts mainly from the Bible. We combine the two in the following pages. The illustrations, as well as the rhymes, were either copied from, or suggested by "*The New England Primer Improved*," or else introduced into the latter from "*The Guide*," or else both were copied or suggested from an earlier original, which we have not the facilities at hand for determining. The illustrations were copied for this Journal by the *American Phototype Company*, whose office is in Leroy Place, Bleeker Street, New York.

The Child's Guide.

A.
In Adam's Fall,
We sinned all.

B.
This Book attend,
Thy Life to mend.

C.
The Cat doth play,
And after slay.

D.
The Dog doth bite
A Thief at Night.

E.
An Eagle's flight
Is out of sight.

F.
The Idle Fool,
Is whipt at School.

G.
As runs the Glass,
Man's Life doth pass.

H.
My Book and Heart
Shall never part.

I.
Jesus did dye,
For thee and I.

K.
King Charles the Good,
No Man of Blood.

*The Youth's Guide.*

And Adam called his
Wife's Name Eve, because
she was the mother of all
living.

Be ye doers of the Word,
and not hearers only, deceiv-
ing your own Souls.

Every Creature of God is
good; and by him were all
things created.

A living dog is better than
a dead Lion.

Riches make themselves
Wings, they flee away as
Eagle towards Heaven.



The Heart of a Fool is in
his Mouth; but the Mouth
of a wise man is in his
Heart.—Sirach.

Nothing is more precious
than Time, yet nothing is
less esteemed of.—Bern.

Blessed are the pure in
Heart, for they shall see
God.

At the Name of JESUS
every Knee shall bow.

Is it fit to say to a King,
Thou art wicked? And to
Princes, Ye are ungodly?

The Child's Guide.

L.

The *Lyon* bold,
The *Lamb* doth hold,

M.

The *Moon* gives Light,
In time of Night.

N.

Nightingales sing,
In time of Spring.

O.

The *Royal Oak* our King did
save
From fatal Stroke of Rebel
Slave.

P.

Peter denies
His Lord, and cries.

Q.

Queen *Esther* came in Royal
State,
To save the *Jews* from dismal
fate.

R.

Rachel doth mourn
For her first-born.

S.

Samuel anoints
Whom God appoints.

T.

Time cuts down all
Both great and small.

U.

Uriah's beautiful Wife,
Made *David* seek his Life.

The Youth's Guide.

The Wicked flee when no
man pursueth, but the Right-
eous are bold as a *Lion*.

The *LORD* hath ap-
pointed the Moon for Sea-
sons.

The time of singing of
Birds is come.

Howl, O ye *Oaks* of *Ba-
shan*.—*Zech. i.*

And *Peter* remembered the
words of *JESUS*, which
he said to him, Before the
cock crow thou shalt deny
me thrice. And he went
out, and wept bitterly.

When the King saw *Esther*
the Queen, he held out the
golden Scepter which was in
his hand.

In *Rama* was a voice
heard, — *Rachel* weep-
ing, &c.

Samuel took a vial of Oil,
and poured it on *Saul's*
head, and kissed him.

Time and Patience teach
all men to live content: or
Time is life's best Counsellor.
Arist.

When the Wife of *Uriah*
heard that her Husband was
dead, she mourned, and af-
terwards she became *David's*
Wife.



The Child's Guide.

W.

Whales in the Sea
God's Voice obey.

X.

Xerxes the Great did die,
And so must you and I.

Y.

Youth's forward slips
Death soonest nips.

Z.

Zacheus, he
Did climb the Tree
His Lord to see.

*The Youth's Guide.*

God created great Whales,
and every living thing that
moveth.

The King's heart is in the
hand of the Lord, as the
Rivers of Water, he turneth
it whithersoever he will.

Wherewithal shall a young
man cleanse his way? by
taking heed thereto accord-
ing to thy Word.

There was a rich Man
among the Publicans named
Zacheus; the same sought to
see Jesus, but could not for
the press, because he was
low. So he ran and climbed
into a Sycamore-tree.

THE CHILD'S BEHAVIOUR FROM MORNING TO NIGHT.

First in the Morning when thou dost
awake,
To God for his Grace thy Petition make.
Some heavenly Prayer use daily to say,
And the God of Heaven will bless thee
always.

*Child, after thou hast prayed to God for
his Assistance, observe these following
Rules.*

Down from thy Chamber when as thou
shalt go,
Thy Parents salute & the household also.
Thy Hands see thou wash, thy Head also
comb;
Keep clean thy apparel both abroad and
at home.
This done, thy Satchel, & thy Books take;
And to the School haste thou do make.

At going to School,

In going your way, and passing the street,
Thy Hat put off, salute those you meet.
When to the School thou shalt resort,
Salute thy Master, I do thee exhort:
Thy fellows also, in token of Love,
Least of unkindness they thee reprove:
Learn then in thy youth, for it is too true,
It will be too late when Age doth ensue.
If thou doubt any thing, desire to be told;
It is no shame to learn, be thou never so
old.

When from School you shall take your
way,
Make haste to your home, and stay not
to play:

The House then entering, in the Parents
presence,
Humbly Salute them, with due reverence.

At the Table.

When down to the Table thy Parents
shall sit,
In place be ready for purpose most fit.

Be meek in thy Carriage, stare none in
the Face;

First hold up your Hands, and then say
thy Grace.

The Grace being said, if able thou be
To serve at the Table, it will become
thee.

If thou canst not wait, presume in no case,
But in sitting down, to your Betters give
place.

Suffer each Man first served to be;
For it is a point of great courtesie.
Let not thy Tongue at the Table walk;
And of no matter either jangle or talk;
For Cato doth say that in old and in
young,

The first step to Virtue is to bridle the
Tongue.

In the Church.

When unto the Church thou shalt take
thy way,

Kneeling or standing to God humbly
pray.

A contrite Heart he will not despise,
But doth account it a sweet Sacrifice.
Unto him thy Sins Shew and confess,
Asking for them Pardon and Forgiveness.

Then ask thou in Faith, not doubting to
have,

And thou shalt receive that which thou
dost crave,

More merciful he is than Tongue can ex-
press.

The Author and Giver of Grace and
Goodness.

In the Church comely thy self well be-
have;

Sober in carriage, with countenance
grave.

The Lord doth call it the House of Prayer.
It must not be used as a Market or Fair.

XIII. AMERICAN TEXT-BOOKS.

It is difficult to over estimate the importance of Text-Books, in the external or internal economy of education—in the magnitude of the pecuniary interests involved to publishers, authors, and parents, as well as the right performance of the work of instruction by teachers and pupils in schools of every grade. In this and subsequent numbers of the Journal, we purpose to contribute something toward a fuller understanding of the growth and condition of this great interest in this country,—both in its material and its scholastic aspects—of the manufacture and illustration of books, and of the principles and methods applied to the development of particular subjects, as well as of the modes adopted to secure their introduction into particular schools, cities, and states. Although the subject will not be treated regularly in this order, when our review is complete, it will be found to embrace—

I. AUTHORS AND BOOKS. A catalogue of authors, including the name of the author, or editor, so far as can be ascertained by the compiler, of every publication, that has been used, or prepared for use as a text-book in this country, with the title, edition, place and date of publication of each work.

II. SUBJECTS. A catalogue of the same books and authors, included in Part I., arranged according to the subject upon which they treat—or at least an index to the authors who have treated of each subject.

III. PUBLISHERS. A catalogue of publishers, who will furnish a complete list of the text-books which they have issued, classified by authors and subjects, and which they are now prepared to furnish.

IV. A review of the plan—the principles and development, on which the text-books most in use are prepared, with a comparison of the merits of a few of the principal text-books on the same subject.

V. The results—"the Odds and Ends" of some study, incidental and accidental, as well as designed, as to the origin, illus

trations, authorship, real and claimed, and the religious and political tendencies and aims—apart from the specific and avowed purpose, of certain school books.

VI. Suggestions as to the preparation, and manufacture, and introduction of school books, in reference to the interests of purchasers, teachers, and pupils, as well as of authors, publishers, agents, and venders generally.

PART I. AUTHORS AND BOOKS.

The catalogue of authors and books, of which we commence the publication in this number, was originally intended to embrace the Text-Books in the compiler's own collection, but has been extended to include all of American authorship, publication, or use, of which he has been able to obtain any information. This information, in many instances, is very imperfect and unsatisfactory, but will at least serve as a clue to further inquiry.

The books, to whose title a single asterisk (*) is annexed, as also the editions, whose dates, or places of publication are placed within parenthesis (), are not in his possession. Of each of these books the compiler would be glad to obtain a copy, by exchange of duplicates in his possession, which are indicated by a double asterisk (**).

No dates are abbreviated unless later than 1800. Other abbreviations will need no explanation.

Much pains has been taken to secure correctness and completeness. Many errors, however, and omissions will doubtless be detected in regard to those books, which the compiler has not seen, and whose titles, dates, and places of publication, and authorship have been gleaned from numerous sources, not always reliable.

Corrections and additional information are solicited. To any collector, author, or publisher, who will signify a wish to see the list under any letter of the alphabet, before it is published, that it may be made to include a correct entry of every school book under that letter in his possession or knowledge, an impression will be forwarded, before it is printed, and any addition, or correction returned will be entered, before the same is published.

All communications relating to this subject can be addressed directly to the "*Editor of the American Journal of Education*," Hartford, Conn.

AMERICAN TEXT-BOOKS.

PART I. AUTHORS AND BOOKS.

A.

- ABADIE & SONS,**
A French Grammar, Philadelphia, 1 edition, 1823.
- ABBOTT, GORHAM D.,**
The English Spelling Book, (*Jnon.*) New York, 1847, (1849.)
- ABBOTT, JACOB,**
The Little Philosopher, Boston, 1833 ('35.)
The Little Learner—To Talk, New York, 1835.*
" " To Think, New York, 1836.*
" " To Read, New York, 1836.*
" " Common Things, N. Y., 1836.*
" " Right and Wrong, N. Y., 1836.*
Elements of Astronomy, New York.*
Mrs. Markham's History of France, New York, 1839.
Narrative of General Course of History, (Harper's School History.) New York 1860.
Philosophy. See *John Abercrombie.*
- ABBOTT, MESSRS. (J. & C. E.)**
The Mt. Vernon Reader, Junior, Boston, 1842, (N. Y.)
" " " Middle, New York, 1835.**
" " " Senior, Boston, 1840.
- ABBOTT, J. & C. E.,**
The Mt. Vernon Arith., Part I., N. Y., 2 ed., 1846.**
" " " II., N. Y., 1847.*
Addition Columns, N. Y., 1846, 1847.
- ABBOTT, J. S. C.,**
The Young Astronomer, N. Y., 1 ed., 1846, 1847.
- ABBOTT, J. & J. S. C.,**
Common School Drawing Cards, three Sets, N. Y.*
Drawing Cards, ten Series, N. Y.*
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